

OPERATIONALIZING MINDFULNESS
IN THE WORKPLACE

By

ABBEY ANN DAVIS

Bachelor of Science in Business Administration
Oklahoma State University
Stillwater, OK
2008

Master of Science in Business Administration
Oklahoma State University
Stillwater, OK
2011

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Dissertation Approved:

Lisa Schurer Lambert

Dissertation Adviser

Nikos Dimotakis

Abbie Shipp

Matt Rutherford

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Abstract: Mindfulness, generally characterized as a state of receptive attention and awareness, is a well-studied construct in psychology, but has yet to be widely accepted in the organizational and behavioral sciences. Some of this can be attributed to lack of conceptual clarity due to numerous definitions and proposed factor structures. To assist with advancing the usefulness of the construct of mindfulness in the workplace, a global definition is proposed along with a four-dimension structure that predicts global workplace mindfulness. Three studies were conducted to develop initial support for convergent and discriminant validity. This paper offers theoretical and empirical contributions by conceptualizing and operationalizing the mindfulness construct for the behavioral sciences in the context of a workplace.

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CHAPTER I

INTRODUCTION

Mindfulness, which is briefly explained as a state of receptive attention and awareness, has been studied for thousands of years, but only recently has it surfaced in the organizational and behavioral sciences. Scientific studies demonstrating how mindfulness can help combat stress have contributed to the growing popularity of this construct over the past decade (Grossman, Niemann, Schmidt, & Walach 2004). Mindfulness is related to improved sleep quality and emotional detachment (Hülshager, Lang, Depenbrock, Fehrman, Zijlstra, & Alberts, 2014), lower emotional exhaustion and increased job satisfaction (Hülshager, Alberts, Feinholdt, & Lang, 2013), and increased emotional wellbeing (Brown & Ryan, 2003). Psychologists have embraced mindfulness as a concept and study its effects on wellbeing outcomes (Reina & Kudesia 2020; Zeidan, Johnson, Diamond, David, & Goolkasian 2010), but mindfulness has yet to be widely accepted in the organizational and behavioral sciences. While a single, universal depiction of mindfulness does not exist, in most organizational and behavioral sciences literatures, mindfulness has been conceptualized as a receptive attention to, and awareness of, present events and experiences (Brown & Ryan, 2003, p. 822), but this is one of many definitions in use today (see Table 1 for a complete

list). Multiple definitions and approaches to measuring mindfulness limit our ability to fully understand its benefits in the workplace.

Please See Table 1

Challenges with defining and measuring mindfulness have not gone unnoticed (Chiesa, 2013; Grossman, 2008; Grossman, 2011). Much of this can be attributed to the difficulty researchers have faced in accurately characterizing what Brown and Ryan (2004) refer to as a ‘deceptively simple concept’. There are four conceptual and methodological concerns that have created confusion with mindfulness over the past decade. First, researchers have treated two foundational mindfulness conceptualizations, Jon Kabat-Zinn’s and Ellen Langer’s versions, as distinct (Chiesa, 2013; Dane, 2011; Kabat-Zinn, 1994; Langer, 1989). Kabat-Zinn’s depiction of mindfulness relies heavily on focused attention, while Langer’s focuses more on noticing the ‘new’ or variability in situations. Each approach may be useful, but having the same name for constructs derived from two competing schools of thought has created confusion and hinders the ability to develop a strong conceptual understanding of mindfulness.

Second, many researchers have analyzed mindfulness as a stable trait. Studying mindfulness as a trait may not take situational demands into account and may not capture important variability throughout the day. As Langer notes, both context and variability are critical mindfulness components, therefore trying to study mindfulness as a fixed or stable trait may be counterintuitive. Some claims have been made that, with practice, mindfulness trait effects can be altered over time (Kiken, Garland, Bluth, Palsson, & Gaylord, 2015), but this requires years of continuous, often daily, practice which may be unlikely for individuals

in a work context. If organizational scholars are concerned with how mindfulness impacts work, it may be more practical to study mindfulness as a state.

The third concern relates to challenges researchers have faced with operationalizing mindfulness. Existing mindfulness measures such as the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) and the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) have been scrutinized because it may be difficult to capture true mindfulness levels through self-reports (Chiesa, 2013; Grossman, 2011). For example, since there are no known established sets of behaviors or physiological responses associated with mindfulness, it can be difficult for an individual to discern between how mindful they think they are versus their true level (Chiesa, 2013). Another argument has been made that items included in some mindfulness self-assessments could be interpreted differently by those who have been exposed to mindfulness training versus those who have not. This could lead respondents with experience in mindfulness to be biased and choose the ‘correct’ answer (Grossman, 2011). Many measures in use today also capture items related to both mindfulness and mindlessness, yet little research has been provided to justify if these constructs are opposites of the same continuum or unique constructs. There is also no agreed upon factor structure for mindfulness with researchers proposing anywhere from one to five factors with the various measures in use today. Continuing the use of flawed measures does not advance knowledge (Lambert & Newman, 2022) and will add to the ongoing debate this construct has faced. To understand how mindfulness impacts employees at work, it is necessary to have a robust measure that can accurately capture the variability with this construct.

Finally, there has been unrecognized overlap between mindfulness and another attention related construct, metacognition. While mindfulness is the awareness of the activities we engage in, metacognition is the monitoring and management of cognitive processes. These two terms are at times discussed together without theoretical explanation, and distinct definitions for each are often overlooked. Some researchers have proposed the two are interconnected (Kudesia, 2019), and others state they are distinct and should not be interwoven (Brown & Ryan, 2004). More evidence is needed to determine in what ways these constructs are related and distinct.

Good and colleagues (2006) argue that mindfulness has a promising future in the organizational sciences. Understanding mindfulness in a workplace context may help facilitate ways to improve task performance and social relationships at work, and perhaps benefit both employees and organizations (Dane, 2011; Glomb, Duffy, Bono, & Yang, 2011). Workplace mindfulness is a term that has been mentioned in recent research, but a conceptual definition has yet to be agreed upon (Dane & Brummel, 2014). To make mindfulness applicable in the workplace, a definition and measure are needed to capture how states of mindfulness impact work. This paper expands upon previous mindfulness research and develops a theoretical framework that clarifies and extends the construct of mindfulness in the workplace. To work towards addressing the problems that have been highlighted specifically, I: (a) take a state-based temporal perspective to defining workplace mindfulness avoiding the assumption that there is no within-person variation, (b) develop a measure of workplace mindfulness that focuses on immediate experiences and considers the full continuum to support construct validity and (c) differentiate mindfulness as distinct from mindlessness and metacognition.

By defining and operationalizing workplace mindfulness as a state, future researchers will be able to better assess how mindfulness fluctuates throughout the day which in turn could help us understand how mindfulness affects work outcomes. Potential contributions of operationalizing workplace mindfulness are to better understand how this construct could improve work lives, and understand under what conditions workplace mindfulness may not be helpful. My hope is that by creating a definition and measure of workplace mindfulness, we will better understand how employees may experience the presence, and absence, of mindfulness at work.

CHAPTER II

CONCEPTUALIZING WORKPLACE MINDFULNESS

Theoretical foundations of mindfulness

Until recently, theoretical progress in mindfulness has been driven by research in medicine and psychology. Jon Kabat-Zinn describes mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 145), and introduced the construct as a self-regulation practice to assist patients with chronic pain (Kabat-Zinn, 1982). Kabat-Zinn utilized gate control theory as a way explain the modulating effects of pain, attention, and distraction and how mindfulness meditation might be used as a coping strategy (Kabat-Zinn, 1982; Melzack & Wall, 1965). In psychology, Ellen Langer’s theory of mindfulness emerged in 1989 where she defined the construct as when an individual “actively engages in reconstructing the environment through creating new categories or distinctions, thus directing attention to new contextual cues that may be consciously controlled or manipulated as appropriate” (Langer, 1989, p. 4). Much of Langer’s work has been centered around the impact of mindfulness on the aging process (Alexander, Langer, Newman, Chandler & Davies, 1989; Langer & Rodin, 1976; Langer, Beck, Winman, Rodin, & Spitzer, 1979).

Some scholars will specifically mention if they are referring to Langer's or Kabat-Zinn's version of mindfulness (Bishop et al., 2004; Weick & Putnam, 2006), and some researchers believe that two different forms of mindfulness may exist (Brown, Ryan, & Creswell, 2007; Dane, 2011). Yet a deeper understanding of the similarities and distinctions between the two definitions will reveal how they could be integrated. Treating these as different versions of mindfulness has added to the confusion facing scholars trying to advance research in this area.

While pop culture has gravitated towards Kabat-Zinn's version of mindfulness over the years, Langer's theory places more emphasis on the role of cognitive differentiation, the decision to rely on established categories and distinctions versus noticing new perspectives and complexity in an experience (Langer, 1989). Langer's conceptualization emphasizes the importance of being open to complexity, differing viewpoints, variability, and looking at a situation through a new lens (Langer, 1989). Langer makes specific mention in her definition that mindfulness includes 'directing attention to new contextual cues'. I argue that this sense of receptiveness and curiosity is necessary to notice new events or stimuli in our environment at work and helps to differentiate mindfulness from other related constructs.

When analyzing Kabat-Zinn's version of mindfulness, he uses the phrase "an unfolding experience" which highlights the importance of focusing not only on the immediate present moment, but also on how a situation or experience evolves. His conceptualization describes mindfulness without a specific beginning or end, meaning that the duration of mindful experiences can vary, which I argue researchers have lost sight of by focusing solely on "present-moment events". Research on temporal focus

suggests that individuals can shift their attention between the past, present, and future versus staying in only one time period, like the present, and can also simultaneously think about more than one period in a given experience (Shipp, Edwards, & Lambert, 2009). Defining the duration or time period of mindfulness may be unnecessarily restrictive and we do not have theory or data that specifies how long mindfulness lasts. In line with the belief that mindfulness fluctuates throughout the day, I argue that understanding how we attend throughout the duration of an experience is more critical to examining state effects of mindfulness than by narrowly focusing and defining mindfulness with the immediate present, which is here and gone in a second.

In 2003, Brown and Ryan began working towards consolidating research and defined what is now the most common, and simplistic, definition of mindfulness, “a receptive attention to and awareness of present events and experiences” (Brown & Ryan, 2003, p. 822). While this conceptualization offered a more simplified description of mindfulness, this definition is unfocused and does not address the role of intentionality, fluctuation in state duration, and embracing complexity, components first described by Kabat-Zinn’s and Langer’s introduction of mindfulness. While Brown and Ryan credit Langer’s earlier work on mindfulness as a foundational step, they argue the role of cognitive differentiation is contradictory to the open and undivided state of observation they proposed (2003). Researchers have since been debating if parsimony comes at the cost of overlooking necessary complexity with this construct, or vice versa (Dane, 2011; Glomb et al., 2011; Reina, 2020). In addition, when mindfulness has been examined as a firm level construct, what is often referred to as collective mindfulness (Weick, Sutcliffe, & Obstfeld, 1999), researchers have aligned themselves more with Langer’s

conceptualization which has added another layer of complexity and swings the pendulum back in the other direction (Weick & Putnam, 2006).

One of the few areas where Kabat-Zinn's and Langer's definitions align is a focus on intentionality which is implied through the phrases "paying attention on purpose" and "actively engages in". And while an element of intentionality may be the only place of agreement, each of their definitions capture critical components of mindfulness that have since been overlooked. While recognition and appreciation for this theoretical gap between the competing schools of thought has been made (Brown & Ryan, 2004), more research and investigation are needed for reconciliation. This paper draws on both foundational approaches to help advance research and define mindfulness from a workplace perspective.

Mindfulness as a State, Trait, and Skillset

Studies of mindfulness were first focused on trait effects. Researchers have questioned the validity of measuring mindfulness as a trait through a self-report assessment (Chiesa, 2013; Davidson & Kaszniak, 2015; Grossman, 2011). Davidson and Kaszniak (2015) argue that respondents may lack the skillset to accurately critique the innerworkings of their own mind and as respondents become more mindful, scores may decrease because awareness of how busy the mind always is may increase. Some studies have measured mindfulness as a trait with items such as "I tend to walk quickly to get where I'm going without paying attention to what I experience along the way", which is more of a situational experience and tells us little about the overall mindfulness of someone (Dane & Brummel, 2014; Hafenbrack, Kinias, & Barsade, 2014). Another study used the same trait measure for manipulation checks of mindfulness training

interventions which lasted several weeks, rather than measuring the within-person effects pre and post intervention (Kudesia, Pandey, & Reina, 2020).

In some instances, researchers have adapted trait scales to measure state effects which can cause methodological issues. For example, the MAAS was designed as a trait measure of mindfulness (Brown & Ryan, 2003), and the scale includes items such as “I drive places on ‘automatic pilot’ and then wonder why I went there”, and “I break or spill things because of carelessness, not paying attention, or thinking of something else” and measures them on a frequency scale. The MAAS was adapted to serve as a measure of state mindfulness by using five-items from the trait scale and slightly rephrased the items to say “Today I found myself doing things without paying attention” or “Today I did jobs or tasks automatically, without being aware of what I was doing”. If the goal is to understand how state effects fluctuate, I argue that some of the items in the MAAS are far too context specific and may not accurately reflect or capture how mindfulness can vary throughout the day. For example, if working on a data entry task, an individual may have done the job automatically versus another task that required more focus. While we are beginning to see more effort to analyze the construct as a state (Hafenbrack, Cameron, Spreitzer, Zhang, Noval, & Shaffakat, 2020; Hulsheger, Alberts, Feinholdt, & Lang, 2013; Hulsheger, Lang, Depenbrock, Fehrmann, Zijlstra, & Alberts, 2014; Kudesia, Pandey, & Reina, 2020), the choice of measure, state versus trait mindfulness, is rarely justified with a theoretical rationale.

More recent work has attempted to define and measure workplace mindfulness as a set of skills that can be learned and practiced (Zheng, Ni, Liu, & Liang, 2022). Zheng and colleagues developed a workplace mindfulness definition and scale that

operationalizes the construct as a set of skills. This approach may help individuals learn how to improve mindfulness over time, but it doesn't help demonstrate how mindfulness can vary throughout the day. Sample items include "When an unexpected event happens at work, I am immediately aware of it", and "I can accept my emotions regardless of whether they are good or bad at work" which raise concerns about whether the answers to these items could be situation or context dependent and vary. Understanding the level of variability throughout the day may be a more useful approach in work environments. Studying mindfulness as a state by asking respondents to reflect on a recent experience, versus on their assessment of trait mindfulness or skill, may capture mindfulness levels and variability more accurately.

Continuum of Mindfulness

Are mindfulness and mindlessness opposites of the same continuum or distinct constructs? Mindlessness has been assumed to be the opposite of mindfulness, but little evidence has been offered to support this claim. Criticisms have been made that some scales attempt to measure mindfulness with items of mindlessness (Grossman, 2011; Chiesa, 2013). Langer distinguishes mindlessness from mindful states as a mode that only relies on existing categories and perspectives during information processing. Langer describes mindlessness as when "an individual operates much like a robot; thoughts, emotions, and behaviors are determined by 'programmed' routines based on distinctions and associations learned in the past" (Haigh as cited from Bodner & Langer, 2001, p. 1).

When conceptualizing a construct, it is important to specify the poles and construct continuum (Tay & Jebb, 2018). Of the measures in use today, most attempt to measure mindfulness by designing items that capture mindlessness, not mindfulness, yet

justification to identify the construct as bipolar has not been provided. Grossman (2011) argues that content validity has been overlooked for mindfulness scales as many attempt to measure mindfulness with items related to inattention or mindlessness. Grossman makes a case for mindfulness and mindlessness that is similar to Reise and Waller's (2009) argument for the relationship between depression and happiness. Low levels of depression is not happiness, it's lack of depression, and the same logic may need to be applied to measuring mindfulness. While Langer compares mindfulness to its proposed opposite, mindlessness, further investigation is needed to determine if these are opposites of the same continuum or distinct constructs that are simply bivariate. Initial evidence has been offered to suggest that mindfulness is a unipolar construct when the factor structure for the Mindfulness/Mindlessness scale was analyzed and resulted in a one factor model (Haigh, Moore, Kashdan, & Fresco, 2011). This offers a start for the unipolar claim, but more evidence is needed.

Out of the fourteen measures that were identified for mindfulness presented in Table 2, eight of the measures used items that captured descriptions of both mindfulness and mindlessness (Baer, Smith, & Allen 2004; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Bodner & Langer, 2001; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008; Chadwick Hember, Symes, Peters, Kuipers, & Dagnan, 2008; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Reina 2020). The most widely used measure in the behavioral sciences has items that only capture mindlessness (Brown & Ryan 2003), and five measures capture items only related to mindfulness (Haigh, Moore, Kashdan, & Fresco, 2011; Lau et al., 2006; Tanay & Bernstein 2013; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006; Zheng, Ni, Liu, & Liang, 2022).

Please See Table 2

More research is needed to determine if mindfulness and mindlessness are in fact opposites, or distinct but related constructs. I argue that mindful states can vary from having high levels of awareness and attention during an experience, to low levels. The dimensions of mindfulness may also vary. For example, in a situation that may require high attention, but lower levels of awareness, low levels may not be operating carelessly it could simply mean having lower awareness of what is occurring around you. It is possible that environmental influences like task complexity could have an impact as well. For example, in an important meeting an individual may have high levels of both attention and awareness being engaged with the content of the meeting while also being aware of the reactions of others in the room. Another task such as checking in with guests about their experience may not require high levels of focus and awareness, but it does not mean that the individual is running on autopilot, the resources needed to complete the task maybe aren't as high. The same argument may be made for the construct of mindlessness in that levels of automaticity could vary as well. There may be some activities that can rely almost completely on automatic processes like driving, versus a state of rumination that completely overrides any ability to focus. I propose that mindfulness and mindlessness are unique and analyze their relationships when developing a measure for workplace mindfulness.

Mindfulness as a Multidimensional Construct

In line with the mindfulness and mindlessness debate, researchers also lack consensus on an agreed upon factor structure for mindfulness. Most researchers have

operationalized mindfulness through a multidimensional model. Self-report assessments of mindfulness range from one factor (Brown & Ryan, 2003; Chadwick et al., 2008; Haigh, Moore, Kashdan, & Fresco, 2011), to up to five factors including components such as observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience (Baer et al., 2006). Table 2 outlines current measures along with their factor structures and available fit indices.

Challenges in validating multidimensional constructs have been raised including the need to use strong theory to support the structure and the need to specify the nature of the higher order construct (Edwards, 2001; Johnson, Rosen, & Chang, 2011). The factor structures in use today are mainly assumed to be reflective models where causality flows from mindfulness to the various proposed factors. There is an opportunity to provide stronger clarification for how theory drives a multidimensional model of mindfulness and to clearly specify the causal flow of the model (MacKenzie, Podsakoff, & Jarvis, 2005).

Creating a measure for workplace mindfulness is necessary to understand how mindfulness impacts work. Developing a measure with strong construct validity is the best way to gain momentum with studying an unobservable construct like mindfulness (Schwab, 1980). When operationalizing workplace mindfulness, and a thorough continuum specification process is needed to resolve the mindfulness vs. mindlessness debate (Tay & Jebb, 2018). I propose that workplace mindfulness is a multidimensional, unipolar construct where the upper end of the continuum demonstrates the presence of workplace mindfulness, and the lower end of the continuum demonstrates an absence of workplace mindfulness.

Contrasting Mindfulness with Metacognition

Some of the current definitions of mindfulness appear to overlap specifically with metacognition by including verbiage such as “nonjudgmental, acceptance, or creating new categories”. These descriptions hint to conscious or non-conscious decisions an individual makes about their experiences and includes an element of cognitive control or judgements. Brown and Ryan (2004) called out this overlap and differentiated metacognition as a way to monitor and control cognitive activities whereas mindfulness involves observation of thought, versus controlling thought.

Metacognition was an idea first explored when determining effective methods for youth learning (Flavell, 1979). Metacognition is an umbrella term that describes one’s knowledge and regulation of cognitive activity (Moses, Baird, Wilson, & Keil, 1999), and has been further described as metacognitive monitoring, processes to observe and reflect on cognitive processes, and metacognitive control, the conscious and non-conscious decisions made based on monitoring (Perfect & Schwartz, 2002).

Metacognition helps us think about how we process information, and explore new problems by relating back to previous experiences. Mindfulness is most likely related to the metacognitive monitoring state of observation and reflection, but some definitions of mindfulness begin to blur the lines between observation of cognitive processes and control or judgment of cognitive processes.

The relationship between mindfulness and metacognition has been examined (Kudesia, 2019; Kudesia & Lau, 2020; Reina & Kudesia, 2020), but both constructs have been historically difficult to define, observe and operationalize. Because these cognitive constructs are both difficult to observe, researchers have struggled with operationalizing

them which often leads to a chicken and egg debate. Kudesia and colleagues have worked to integrate these two constructs into a framework of metacognitive practice. Leaning on practice theory, Kudesia conceptualizes mindfulness as a metacognitive practice based on three principles: 1) individuals can adjust what information they process and how they process it, 2) individuals' beliefs about information processing can impact these adjustments, and 3) when people adjust their information processing, they can respond more flexibly to situations (Kudesia, 2019, p. 406). These principles appear to incorporate additional constructs into the description of metacognition, e.g., motivation and goal orientation. Kudesia proposes a framework to integrate how mindfulness and metacognition are interwoven into a developed practice which can assist with designing interventions in the workplace, however it is still not clear how the constructs are distinct. While Kudesia and colleagues are working to understand how cognitive processing can be improved with these constructs, we need to understand more about how the constructs are related and distinct.

I propose that workplace mindfulness is the intentional process of directing awareness and attention towards activities occurring at work, and the cognitive processes that are applied such as decision making, perspective taking, relating to previous experiences, or creating new categories, is the process of metacognition. Until researchers can truly differentiate mindfulness and metacognition, we run the risk of continued claims of construct proliferation. Construct definitions should not capture multiple conceptual domains and doing so runs the risk of measurement contamination (Podsakoff, MacKenzie, & Podsakoff, 2016). In order to better understand how these constructs work together, it is important for researchers to clearly define and differentiate

the two enabling researchers to explore additional questions. For example, if an individual is practicing workplace mindfulness, are they more likely to engage in metacognitive processes? And if an individual is not aware and attentive to the situation because they are otherwise preoccupied with a distraction, mind wandering, or are performing a task while on ‘auto pilot’, will they be less likely to engage in metacognitive processes? Mindfulness and metacognition are likely related and interconnected, but until we have clear definitions and effective measures for each, it will be difficult to understand their causal relationship.

Up to this point, I have outlined four main conceptual and methodological concerns with previous attempts to define and measure mindfulness. This includes treating Jon Kabat-Zinn’s and Ellen Langer’s conceptualizations as distinct, analyzing mindfulness as a stable trait versus a state, operationalizing mindfulness with items reflecting mindlessness, and unrecognized overlap with metacognition. In so doing, I propose important considerations for defining and operationalizing mindfulness that include ensuring foundational theoretical elements are not forgotten, defining and measuring workplace mindfulness as a state, and distinguishing it from both mindlessness and metacognition.

Mindfulness is not directly observable, therefore is it necessary that a clear conceptual definition be established to make progress towards construct validity (Podsakoff, MacKenzie, & Podsakoff, 2016). The following pages review current definitions of mindfulness and the concerns that hinder the ability to apply these definitions in a workplace context have been outlined. A comprehensive approach is

taken to define workplace mindfulness at a global level along with four factors that explain how the construct is predicted.

CHAPTER III

DEFINING WORKPLACE MINDFULNESS

To develop a conceptual definition of workplace mindfulness, I followed the guidance of Podsakoff et al. (2016) and: (1) identified attributes through collecting a representative set of definitions, (2) organized attributes by shared themes, (3) developed a preliminary definition, and (4) refined the conceptual definition. Additional guidance was followed to also ensure the dimensionality of the construct was defined (Lambert & Newman, 2022). I propose that at the global level, workplace mindfulness is predicted through distinct dimensions.

Current Definitions of Mindfulness

The eight mindfulness definitions in use today all vary in factor structure, but through emerging themes, critical attributes were identified and analyzed (see Table 1 for a complete list). The first and most common theme is attention which appeared in every definition. The second theme related to a high level of general awareness. Attributes like ‘awareness that emerges’ or the ‘unfolding of experience’ relates to an individual’s general level of awareness with the current environment and situation. The third theme that emerged was a focus on present moment orientation which has been a longstanding

position of mindfulness, but as mentioned before, the focus on the immediate present confines this construct into a defined time limit versus focusing on the ebbs and flows of mindfulness.

The next two themes, curiosity and intentionality, were found in only a few definitions despite these attributes being critical for a definition of workplace mindfulness. Curiosity or receptiveness helps an individual remain open to what is occurring throughout the experience. Intentionality, or the self-regulation necessary to maintain mindful states, is the idea that mindfulness is not something that happens by mistake, it's a state that is intentionally sought after and maintained.

Out of the seven definitions listed in Table 1, five have possible overlap with metacognition. Attributes such as 'nonjudgmentally or without judgement', 'acceptance', 'without evaluation or cognitive filters', and 'creating new categories or distinctions' all seem to relate to elements of metacognitive control which overlaps with the concept of metacognition. Because the definitions and measures capture elements of mindfulness and metacognition simultaneously, the constructs are not distinct and construct validity is threatened.

Proposed Definition of Workplace Mindfulness

After identifying the critical attributes of existing definitions that I believe are necessary to conceptualize this construct in a workplace setting, it becomes clear that mindfulness cannot be defined with a single factor. While some researchers have attempted to simplify our understanding of mindfulness with a single factor design (Brown & Ryan, 2003; Chadwick, et al., 2008; Haigh, Moore, Kasdan, & Fresco, 2011), I argue this overlooks necessary nuances in how this construct is predicted. Understanding

workplace mindfulness at a global and dimension specific level could offer researchers both an abstract and more nuanced approach to studying this construct at varying levels of specificity. I define a global construct of mindfulness that is caused by a set of dimensions (e.g., facets). This positions workplace mindfulness as a multidimensional construct where the global definition represents the abstract state of mindfulness and dimensions specify how the construct is predicted. The proposed global definition of workplace mindfulness is:

Global workplace mindfulness: A conscious state of alertness towards work tasks.

This definition represents mindfulness at the highest, most abstract, level in a workplace context which is to be fully alert towards work tasks. The global definition establishes workplace mindfulness as a state that fluctuates throughout the day without restricted time bounds and covers the continuum of both high and low levels that can be experienced. By focusing on the full continuum of global workplace mindfulness, this definition proposes a unipolar construct. Next, using the critical attributes that were identified in previous definitions, a set of dimensions were developed as defining characteristics of the global construct namely the dimensions of intentionality, awareness, attention, and curiosity in the conceptualization of workplace mindfulness.

The first dimension that I believe predicts global workplace mindfulness is intention. As Brown and Ryan (2003, p. 823) noted, “mindfulness may be important in disengaging individuals from automatic thoughts, habits, and unhealthy behavior patterns and thus could play a key role in fostering informed and self-endorsed behavioral regulation”. Intention may be necessary to help self-regulate mindful states by disengaging from automatic thoughts to maintain an engaged state of alertness towards

work. Intentions are motivational factors that influence behaviors (Ajzen, 1985). Ajzen states that intentions are indicators for how hard an individual is willing to try and how much effort they plan to exercise to carry out a behavior (1985, p. 181). With interruptions and distractions that occur at work, along with the monotony of some tasks, the amount of intentionality may be critical to explaining global workplace mindfulness. Only three of the conceptualizations in use today include a component of intentionality in the definition, however two of those are from Langer and Kabat-Zinn. I argue that the dimension of intentionality is key to understanding global workplace mindfulness and define this dimension as:

Intention: The extent to which an individual seeks out and maintains mindful states.

Attention is the only proposed dimension that exists in every current conceptualization of mindfulness and awareness shows up in five of the eight definitions presented in Table 1. Awareness has been described as the background or ‘radar’ of consciousness that continuously monitors attention to the inner and outer environment (Brown & Ryan, 2003, p. 822). In contrast, attention is focusing awareness to a limited range of experience (Brown & Ryan, 2003). The two are interconnected as an individual may choose to consciously adjust attention to specific stimuli observed in awareness. By remaining observant of surroundings and choosing to direct attention towards specific stimuli, an individual may be able to better sustain a conscious state of alertness towards work activities. I believe that attention and awareness are necessary to be conscious and alert towards work activities and make it possible to choose where to direct attention. Workplace mindfulness is a state that evolves based on intentional effort to direct

attention towards specific stimuli, while maintaining a general level of observation to the environment. I define the dimensions of awareness and attention as:

Awareness: The extent to which an individual monitors their inner and outer environment.

Attention: The extent to which an individual directs their focus to stimuli associated with their current work experience.

Curiosity may assist with identifying new contextual cues in a situation. This is a dimension that most distinguishes Langer's theory of mindfulness (1989). Curiosity has been identified as a construct that is highly correlated with previous measures of mindfulness (Haigh, Moore, Kashdan, & Fresco, 2011), and is "a positive emotional-motivational system associated with the recognition, pursuit, and self-regulation of novel and challenging opportunities" (Kashdan, Rose, & Fincham, 2004. p. 291). Curiosity has been conceptualized as a two-dimensional construct that includes both exploration, tendencies to seek out new information and experiences, and absorption, tendencies to become fully engaged in these rewarding experiences (Kashdan, Rose, & Fincham, 2004). For the purposes of workplace mindfulness, I am specifically concerned with the exploration dimension of curiosity. This dimension focuses on the receptiveness of seeking new contextual clues, whereas absorption describes the cognitive activities of being completely immersed in a task, to the point of lowering general awareness. I define the dimension of curiosity as:

Curiosity: The extent to which an individual remains open and seeks out new aspects during the experience.

CHAPTER IV

OPERATIONALIZING WORKPLACE MINDFULNESS

I conceptualize workplace mindfulness as a multidimensional model with dimensions that can predict the global level outlined in Figure 1. The construct of global workplace mindfulness and each of the dimensions are identified as latent reflective variables that are linked by structural paths whereby global mindfulness is predicted by the four dimensions. The four dimensions may not equally predict global workplace mindfulness; the dimensions could vary which may be useful in understanding how these differences could impact outcome variables. This model facilitates testing the dimensionality of each dimension and the global construct, and tests the predictive relationships of the dimensions to the global construct. This approach also provides researchers with the option of choosing to study workplace mindfulness at global or dimension specific level based on their research question.

To assist in building content and construct validity, best practices were followed for the scale development process (Colquitt, Sabey, Rodell, & Hill, 2019; Hinkin, 1998; Zickar, 2020). A state-based approach is taken by prompting responses to an immediate experience at a time randomly selected by the researcher. This approach will ask respondents to evaluate their current state instead of relying on self-reports of overall

mindfulness which can lead to methodological issues since it may be difficult for individuals to accurately generalize overall cognitions (Davidson & Kaszniak, 2015; Grossman, 2011).

Please See Figure 1

Item Generation

Items for both the global and dimension-specific measure of workplace mindfulness were generated using a deductive approach (Hinkin, 1998). A thorough review of the literature was conducted to develop a strong understanding of the current theoretical landscape and measures in use today. From there, definitions were developed for the five latent variables in the model which were then used to generate items. Items were designed with two objectives, 1) ensure that they reflected all aspects of the definition and worded to minimize grammatical redundancy and 2) increase conceptual redundancy. This approach helps ensure that items are capturing the same construct along with different manifestations of the construct (Cortina, 2022). For global workplace mindfulness, sample items include “I stayed with what I was doing the entire time” and “I remained open to new ways of doing things”, measured on a 7-point Likert amount scale. The dimension-specific measure included at least six items for each dimension (intention, awareness, attention, and curiosity). Sample items included “I was intentional about what I was doing”, “I was aware of what was happening around me”, “My attention was focused”, “I was interested in what was going on” and were measured using a 7-point Likert amount scale. The full scales can be found in Appendices A and B.

Overview of Studies

To develop a scale of workplace mindfulness at a global and dimension specific level, three studies were conducted to assess construct validity. Study one consisted of a subject matter expert review to assess content validity by addressing definitional correspondence of items. The next study tested the revised models based on subject matter expert feedback with a confirmatory factor analysis. This study assisted with item reduction and convergent and discriminant validity of the dimensions. The final study provided evidence of convergent and discriminant validity of workplace mindfulness against a proposed nomological network of constructs related to mindfulness.

CHAPTER V

STUDY 1 SUBJECT MATTER EXPERT REVIEW

Study Overview

Subject matter experts assessed the extent to which proposed items corresponded to the definitions of global workplace mindfulness and each dimension. These data were used to identify weak items for deletion or revision.

Sample and Procedure

The study procedures were approved by the Oklahoma State Institutional Review Board (IRB 22-73). Subject matter experts were faculty members and PhD students specializing in organizational behavior, management, and mindfulness (N = 29). Using Hinkin and Tracey's definitional correspondence approach to content validation through quantitative review (1999), respondents were asked to rate how closely the items for each variable matched the definitions on a 1 (does not match at all) to 5 (completely matches) Likert scale. Interrater agreement was used to examine how well the subject matter experts agreed on the item-definition correspondence using r_{WG} (James, Demaree, & Wolf, 1984). Items that raters agreed did not represent the factor and definition were dropped with a couple exceptions noted below. Subject matter experts were also asked for their feedback on items and wording.

CHAPTER VI

STUDY 1 RESULTS

Study 1 Analysis

Item mean, variance, σ , and r_{WG} were calculated and are summarized in Table 3. Items with the highest mean and r_{WG} were retained. An analysis and summary for each variable is provided. Table 4 outlines the retained items and revised definitions for the measures.

Please See Table 3

Please See Table 4

Global workplace mindfulness

Five global workplace mindfulness items were retained based on interrater agreement and theoretical reasons and a new item was added at the suggestion of an expert. Expert feedback suggested that the global definition may overlap with engagement and not capture other relevant areas of mindfulness including openness,

awareness, and acceptance. Based on this feedback, the word “conscious” no longer felt like the appropriate term to use in the definition for global workplace mindfulness as it is not simply a conscious state, but an active and engaged state. Therefore, the definition was revised:

Original definition: A conscious state of alertness towards work.

Updated definition: An engaged state of alertness towards work.

Intention

Four items were retained based on interrater agreement and two items were added at the suggestion of a subject matter expert. Expert feedback focused on the use of the word ‘intention’ and the lack of a specific work focus in the definition. The word intention was perceived as too vague and that items represented effort more than intention. To address these concerns and incorporate more specificity, this dimension was renamed to ‘mindful regulation’ with an updated definition:

Original definition of intention: The extent to which an individual seeks out and maintains mindful states.

Updated definition for mindful regulation: The extent to which an individual seeks out and maintains mindful states during work.

Awareness

Six items were retained for awareness and one item was added to ensure items covered a breadth of experiences. Feedback from the subject matter experts highlighted the double-barreled nature of the definition that includes awareness of both inner and outer environments. One expert pointed out that the skills required of an individual to notice what is going on around them versus identifying different emotions they are experiencing, could be distinct skillsets. This created an interesting challenge as the

intended focus of awareness was to notice what is happening around and within a person. To address this issue, the definition of awareness was revised to capture what occurs during an experience versus including a specific internal or external focus:

Original definition: The extent to which an individual monitors their inner and outer environment.

Updated definition: The extent to which an individual monitors what is occurring during a work experience.

While this definition may seem vague, it provides an opportunity to openly monitor any experience that could be occurring for the respondent, whether internal or external.

Attention

Four items were retained based on interrater agreement. Some of the feedback suggested items were grammatically redundant which means that the items lack item distinctiveness (Cortina et al., 2020). With the elimination of three items, this resolved the concern. While feedback was not directly provided by the panel around the use of the word ‘stimuli’, I had concerns about how it could be interpreted by respondents and replaced it in the definition with word ‘aspects’. The updated definition is reflected below:

Original definition: The extent to which an individual directs their focus to stimuli associated with their current work experience.

Updated definition: The extent to which an individual directs their focus to aspects of their work experience.

Curiosity

Four items for curiosity were retained and the wording for items six and seven were updated to ensure verbiage would be understandable to respondents. To remain

consistent with the other definitions, a work context clarification was added to the definition:

Original definition: The extent to which an individual remains open and seeks out new aspects during the experience.

Updated definition: The extent to which an individual remains open and seeks out new aspects during the work experience.

Study 1 Discussion

There were several key takeaways from Study 1. First, it was clear from the subject matter expert feedback there is not an agreed upon universal depiction of mindfulness. Experts commented on the lack of language around acceptance and nonjudgment in the definition. Other comments from experts highlighted potential overlap between concepts like engagement, focus, and intentionality. This feedback can be interpreted as support for my view that a more parsimonious understanding of workplace mindfulness is necessary. Second, experts suggested the word ‘intention’ is problematic because it can be applied to many other scenarios distinct from mindfulness. This feedback was used to develop more specificity by describing the dimension as ‘mindful regulation’ instead. The third takeaway revolved around the double-barreled nature of awareness having both an internal and external focus. Awareness has often been described this way in mindfulness literature and based on the feedback this is cause for concern and was addressed in the revised measure. The final takeaway relates to one subject matter expert highlighting that some grammatical redundancy still existed with the items. To ensure that items capture conceptual rather than grammatical redundancy, items were analyzed to identify any other problematic areas before the next study was

designed. Table 4 presents the updated definitions and items to be tested in a follow up study.

CHAPTER VII

PROPOSED MULTIDIMENSIONAL MODEL OF WORKPLACE MINDFULNESS

Proposed Structural and Measurement Model

Figure 2 outlines a proposed structural and measurement model for workplace mindfulness that enables the construct to be assessed at different levels of specificity and identifies it as formative multidimensional model with reflective indicators at both levels. This measurement model, although unusual, will enable me to determine how variability in the dimensions affect the global level construct. In this model I propose a thirteen-item measure for global workplace mindfulness and items for each factor at the dimension-specific level. This includes the measurement model for the five latent constructs along with the hypothesized relationships between the constructs.

In line with Langer's and Kabat-Zinn's conceptualizations, I propose that mindfulness is purposeful and requires active engagement. To seek out and maintain mindful states in a workplace context, mindful regulation is likely needed to remain conscious and alert towards work activities. Therefore, I hypothesize the dimension of mindful regulation will help in predicting global workplace mindfulness. With effort to regulate also comes the need to be attuned to what is going on during an experience and

active involvement to determine where to direct attention. While awareness monitors what is happening throughout the experience, attention allows an individual to choose what part of the experience to direct themselves to (Brown & Ryan, 2003). I argue that awareness and attention predict global workplace mindfulness to determine how an individual chooses to engage with different parts of the work task or experience. Leaning on Langer's theory of mindfulness, I also predict that to promote an engaged state of alertness towards work, a dimension of curiosity is also needed. As mentioned in her work, Langer believes that mindfulness is dependent upon the ability to identify new contextual cues during an experience (Langer, 1989). Curious exploration promotes seeking out new information and experiences which may be necessary to maintain an engaged and alert state towards work (Kashdan, Rose, & Fincham, 2004). Hypothesized relationships for each dimension are outlined below:

Hypotheses 1a-d: (a) mindful regulation, (b) awareness, (c) attention, and (d) curiosity will have a strong positive relationship with global workplace mindfulness.

While the model predicts that global workplace mindfulness encompasses all four dimensions, it is also hypothesized that two of the dimensions, attention, and awareness, will have a stronger relationship with global workplace mindfulness. In line with previous research, I position attention and awareness, referring to individuals' ability to monitor and direct attention to aspects of their environment, as key variables to enabling workplace mindfulness (Brown, Ryan, & Creswell, 2007). Through attention and awareness, an individual can better see possibilities and choices that help organize behavioral regulation. If awareness is nonexistent and attention is very high, absorption

may be experienced which I argue is a distinct state. Awareness enables an individual to determine where to direct attention and may also be how one seeks out new or different information in the environment. Attention and awareness are the two dimensions most often included in the literature with depictions of mindfulness (Brown & Ryan, 2003; Glomb et al., 2011; Kabat Zinn, 2003; Lau et al., 2006; Zheng et al., 2022). My conceptualization of workplace mindfulness indicates that it is a state of alertness which necessarily requires attention and awareness. The act of narrowing or widening attention is likely a state of alertness and a critical aspect of this construct. Without awareness and attention working together, small but important nuances in an experience may be overlooked.

Curiosity and mindful regulation should also be related to global workplace mindfulness because effort is needed to maintain the state, and remaining curious helps keep automatic thinking at bay so new aspects during the experience are noticed. This is line with other conceptualizations of mindfulness in the literature (Bodner and Langer, 2001; Langer, 1989; Lau et al., 2006). However, I propose that awareness and attention are core to facilitating a state of engaged alertness, therefore, mindful regulation and curiosity are likely to have weaker relationships than attention and awareness:

Hypothesis 2a-b: (a) Attention and (b) awareness will be more strongly related to global workplace mindfulness than mindful regulation and curiosity.

Next, a confirmatory factor analysis study is conducted to test the hypothesized model and predicted structural relationships.

Please See Figure 2

CHAPTER VIII

STUDY 2 CONFIRMATORY FACTOR ANALYSIS

Study Overview

The next step to evaluate construct validity for the revised set of items through a Confirmatory Factor Analysis.

Sample and Procedure

A convenience sample of undergraduate students from a midwestern university was used for this study to ensure CFA sample size recommendations were met (Jackson, 2001). While students represent only a subset of the intended population of working adults, many students do work while in college and the large sample helped ensure adequate power for a CFA. Students enrolled in professional development courses received a small amount of extra credit in exchange for completing the survey. The study procedures were approved by the Oklahoma State Institutional Review Board (IRB 22-166).

A total of 450 respondents participated out of 843 invited, for a completion rate of 53%. Utilizing best practices to ensure quality responses (DeSimone & Harms, 2018), twenty-six respondents were removed from the dataset based on their answer to a self

reported data quality item, leaving a final sample of 424. The average age was 21.6 and of those who reported gender, 42% were female, 58% male, and .01% nonbinary. Race demographics are as follows for those who reported: 73.5% white, 7% two or more races, 5% Hispanic/Latino, 5% American Indian or Alaska Native, 4% Asian, 2% Black or African American, 1% Native Hawaiian or Pacific Islander, and 1% other.

Respondents completed a consent survey that provided instructions for how to participate in the study and their names and student IDs were collected to receive extra credit. All identifying information were removed from the files after study completion. Since the items were specifically worded towards work-related tasks, the study alerted students to complete the survey while completing academic or work-related tasks. Respondents were also asked to provide their cell phone number so the second survey could be deployed via text. Students received a memo from the researcher they could present to an employer stating that they were participating in a study and at some point, may be asked to complete a short survey at work. At a random time during the day, respondents received a text message stating “You recently signed up to participate in a research study through OSU. If you are currently doing school or work-related tasks, please complete the following survey when it is safe and ok to do so: <survey link>”. Respondents who did not complete the initial survey sent were contacted two more times during the two-week period.

Measures

Respondents completed both the revised global and dimension-specific scales for workplace mindfulness included in Table 4.

CHAPTER IX

STUDY 2 CONFIRMATORY FACTOR ANALYSIS RESULTS

Analysis

Mplus v8.8 and SPSS v27 were used for data analysis. Table 5 presents the descriptive statistics and inter-item correlations. Means and standard deviations varied from ($\bar{x} = 3.69-5.16$, $\sigma = 1.22-1.63$) indicating that most items captured a reasonable range on the scale and there were no floor or ceiling effects. Cronbach's alpha was used to assess internal consistency for each construct. Curiosity had the lowest alpha at ($\alpha = 0.81$) and attention had the highest alpha ($\alpha = 0.92$). Construct correlations are presented in Table 6 with the lowest correlation of ($r = .51$) between curiosity and attention and the highest ($r = .81$) between attention and mindful regulation. The inter-item correlations for global workplace mindfulness measure ranged from ($r = .59-.75$). Support for convergent validity was tested by examining the size of the CFA factor loadings of the items included in Table 8 (Campbell & Fiske, 1959). For these tests, I looked for standardized factor loadings of ($\lambda \geq .7$). Global workplace mindfulness was the only construct to have an average factor loading below the threshold ($\lambda = .63$).

Please See Table 5

Please See Table 6

Next, a series of CFAs were conducted to assess how well the items reflected the dimensions following current best practices (Jackson, Gillaspay, & Purc-Stephenson, 2009; Lance and Vandenberg, 2003). A single factor model was estimated for each of the four dimensions and the global measure. Next a multifactor model including all four dimensions was analyzed in addition to a structural model with the four dimensions loading onto the global measure. Fit information for each model tested is presented in Table 7.

Please See Table 7

Please See Table 8

Starting with the single factor models, the chi square test for all dimension models was significant ($p < .05$) indicating poor fit except for the attention dimension which had a non-significant chi square statistic ($p > .05$) meaning that the proposed model was consistent with the data. I looked for a comparative fit index of ($CFI \geq .95$), a standardized root mean residual of ($SRMR \leq .08$), and a root mean squared error of approximation of

(RMSEA \leq .08) (Nye, 2022). The awareness single factor model did not fit the data well ($\chi^2 = 202.58$ ($df = 14$) ($p < .05$); CFI = .87; RMSEA = .18 [.16, .20]). In addition, the single factor model for curiosity also had concerns, specifically with chi square and RMSEA ($\chi^2 = 18.62$ ($df = 2$) ($p < .05$); CFI = .97; RMSEA = .14 [.09, .20]). The single factor for global workplace mindfulness adequately fit the data ($\chi^2 = 64.51$ ($df = 14$) ($p < .05$); CFI = .95; RMSEA = .09 [.07, .12]). The best fitting single factor models were mindful regulation ($\chi^2 = 35.07$ ($df = 9$) ($p < .05$); CFI = .98; RMSEA = .08 [.06, .11]) and attention ($\chi^2 = 5.31$ ($df = 2$) ($p > .05$); CFI = .99; RMSEA = .06 [.00, .13]).

From there, a four-factor model with the dimensions was analyzed and the structural model where the four factors were loaded on to global workplace mindfulness. The four-factor dimension model was problematic ($\chi^2 = 899.70$ ($df = 185$) ($p < .05$); CFI = .87; RMSEA = .10 [.09, .10]) and so was the structural model ($\chi^2 = 1506.07$ ($df = 340$) ($p < .05$); CFI = .84; RMSEA = .09 [.09, .10]). The structural paths for the hypothesized model can be found in Figure 3. The paths from mindful regulation and awareness to global workplace mindfulness were positive and significant ($p < .05$) providing support for hypotheses 1a and 1b. However, the paths leading from attention and curiosity to global workplace mindfulness were non-significant ($p > .05$), therefore hypotheses 1c and 1d were not supported. Hypotheses 2a-b predicted that attention and awareness would relate more strongly with global workplace mindfulness than mindful regulation and curiosity, however since the path for attention was non-significant and mindful regulation had the highest unstandardized coefficient to global workplace mindfulness, ($p_1 = 1.7$) hypotheses 2a-b were not supported.

Please See Figure 3

Upon review of model fit statistics and loadings, indicators with low standardized factor loadings relative to other items were dropped. Two items were dropped for global workplace mindfulness, two items were dropped for mindful regulation, and three items were dropped for awareness. Four items were retained for each dimension along with five items for global workplace mindfulness to be tested in a follow up study.

Additional Exploratory Tests

To better understand sources of misfit and assess item dimension overlap, an exploratory factor analysis (PCA) was conducted for the revised model using maximum likelihood and oblique rotations which allowed the factors to be correlated. This analysis showed that items were loading on multiple factors between global workplace mindfulness, mindful regulation, and attention. While some overlap is expected between the dimensions and global measure, nearly all items loaded onto one factor for global workplace mindfulness, mindful regulation, and attention. The pattern matrix used in this analysis can be found in Table 10. Next, a factor analysis was completed for the four dimensions excluding global workplace mindfulness. Table 11 provides the three-factor solution returned with mindful regulation and attention loading onto one factor.

Please See Table 10

Please See Table 11

From there, the items for mindful regulation and attention were closely examined for redundancy and it was determined that the first two items for mindful regulation (“I consciously avoided distractions while I was working” and “When my attention began to wander, I was able to redirect it back to what I was doing”) overlapped with the definition of attention. Furthermore, the last two items for mindful regulation (“I directed my energy towards what I was working on” and “I remained connected to the goals I was working towards”) did not appear to tap critical distinctions that were not already captured by the other dimensions. Due to these outcomes, mindful regulation was dropped as a dimension from the model.

Exploratory Confirmatory Factor Analyses

To learn about how the new model might fit without mindful regulation, another round of CFAs was conducted with the trimmed models recognizing that this was just an informational exercise, and the revised model would still need tested in a follow up study. The revised model fit indices can be found in Table 9 along with the revised exploratory structural model in Figure 4. All models demonstrated better fit. Specifically, global workplace mindfulness demonstrated better fit ($\chi^2 = 17.40$ ($df = 5$) ($p > .05$); CFI = .98; RMSEA = .08 [.04, .12]) along with awareness ($\chi^2 = 10.74$ ($df = 2$) ($p > .05$); CFI = .99; RMSEA = .10 [.05, .17]). The overall fit for the revised three factor model excluding mindful regulation demonstrated adequate fit ($\chi^2 = 224.55$ ($df = 51$) ($p < .05$); CFI = .94; RMSEA = .09 [.08, .10]). In addition, the revised structural model with attention,

awareness, and curiosity predicting global workplace mindfulness improved with attention now having a significant path ($p < .05$), but the path from curiosity to the global construct remained non-significant ($p > .05$).

Please See Table 9

Please See Figure 4

Study 2 Discussion

In this study, initial support for convergent validity was offered through high inter-item factor loadings and demonstrated internal consistency for each dimension. Through a series of exploratory tests, model fit improved when items with low factor loadings were dropped from the models. While model fit improved, an exploratory factor analysis identified a concern of discriminant validity when mindful regulation and attention loaded on the same factor. After a thorough review of the definitions and items, it was concluded that the mindful regulation dimension did not add unique value to overall model and was removed. Revised models with the mindful regulation dimension dropped indicated acceptable fit to the data, but the structural model with the three dimensions predicting global workplace mindfulness showed that curiosity was not a significant predictor. The revised model was tested on new data in Study 3.

CHAPTER X

STUDY 3 NOMOLOGICAL NETWORK

Study Overview

The next study was designed to test the revised measurement model again and provide evidence of convergent and discriminant validity by testing the relationship of global workplace mindfulness and the dimensions with other related constructs. Testing relationships in the nomological networks aids in assessing both convergent and discriminant validity for global workplace mindfulness and each dimension along with testing whether the newly developed scales are behaving as they should. In this study the global measure of workplace mindfulness along with each dimension are analyzed against a proposed nomological network. Other constructs were identified in the nomological network and include constructs that are often compared to mindfulness.

Nomological Network

To understand the nomological network of workplace mindfulness, a thorough review of the literature was conducted to identify attention-related constructs in addition to other constructs where there would be an expected relationship (e.g., positive and negative affect). Definitions, comparisons to workplace mindfulness,

and hypothesized relationships expressed in terms of direction and strength for all constructs are summarized in Table 12.

Please See Table 12

Absorption

Absorption is a state that is experienced when fully immersed in a task that requires narrow attentional breadth (Dane, 2011). The state is one of extreme focus where individuals tend to ignore any distractions or stimuli outside of their immediate focus (Rothbard, 2001). Absorption relates to mindfulness in that they both require an element of attention; however, the intensity of attention is likely much higher with absorption and awareness is likely lower. I predict that global workplace mindfulness will have a positive, moderate correlation with absorption. At the dimension level, I hypothesize that attention will have a strong, positive correlation and that all other dimensions will have a weak positive correlation.

Metacognition

Historically, the definitions of mindfulness and metacognition have overlapped. Haynie and Shepherd (2009) are the first scholars, to my knowledge, to have studied metacognition in the behavioral sciences. They proposed a multi-factor model of metacognition to determine how metacognition impacts entrepreneurial activities. Their model consists of knowledge, which refers to one's conscious and cognitive understanding, experiences, which are affective and serve as the avenue for accessing and deploying resources, choices, which enable an individual to evaluate

multiple responses, and monitoring, which is the process of using feedback to re-evaluate and adapt motives in changing situations (Flavell, 1979; Haynie et al. 2010, p. 222).

The benefit of using Haynie and Shepherd's model is that it allowed to test not only the relationship between workplace mindfulness and metacognition at the global level for each construct, but also analyze the relationship with each factor of Haynie and Shepherd's model (knowledge, experience, choice, and monitoring). This will help determine if global workplace mindfulness has a stronger correlation with some dimensions of metacognition than others. I hypothesize a moderate, positive correlation between workplace mindfulness and metacognition at the global level. For each metacognition factor, I hypothesize a moderate, positive correlation between global workplace mindfulness and metacognitive knowledge and experience, and a positive weak correlation with metacognitive choice and monitoring. In addition, hypotheses for each workplace mindfulness dimension with each metacognitive factor are outlined in Table 12.

Mindlessness

Since previous measures of mindfulness have used items that reflect mindlessness, it is important to examine the relationship between these two constructs. While a state of mindlessness appears to rely on narrow and automatic processing, mindfulness is a balanced state of attention, awareness, and curiosity. Low levels of mindfulness may not be perfectly related to high levels of mindlessness because an individual may be able to have low levels of attention and awareness in a work situation, but not necessarily be operating in a state of automaticity or 'auto-pilot'. I hypothesize

that the relationship between global workplace mindfulness and mindlessness will be moderate and negative.

Positive Affect/Negative Affect

Feelings of positive and negative affective states can impact work outcomes and it may be possible to experience states of workplace mindfulness simultaneously with affective states. Terms used to describe positive affect, such as alert and active, bear some relation to mindfulness and I hypothesize that the relationship will be positive and moderate. By comparison negative affect appears to share little in common with mindfulness therefore I hypothesize the relationship to be negative and weak.

Flow

Flow is a state that requires intense focus and is experienced when an optimal balance of challenge and skill occurs which can lead to a feeling of losing oneself during activities (Csikszentmihalyi, 1990; Quinn 2005). To attain a flow state, one must be immersed in a task leading to intense levels of attention, but like absorption, awareness levels are likely lower due to the narrow scope of attention. I hypothesize the relationship between flow and global workplace mindfulness to be positive and moderate. The attention dimension should have the strongest correlation with flow, and curiosity will have a weaker relationship as this state may not be experienced as much during intense focus.

Conscientiousness

Conscientiousness is described as a stable personality trait of individuals who are ambitious, methodical, and disciplined (Barrick & Mount, 1993, Gellatly, 1996).

Mindfulness itself can be a disciplined practiced, therefore the overall relationship

between conscientiousness and global workplace mindfulness is hypothesized to be moderate. At the dimension level, I predict the relationship between conscientiousness and attention to be the strongest and curiosity the lowest. Since conscientiousness is described as very focused and structured, it may be associated with higher levels of attention, but may not leave as much room for curiosity.

Sample and Procedure

A two-part study was completed with working adults in the United States through Prolific. The study procedures were approved by the Oklahoma State Institutional Review Board (IRB 22-274). Three surveys were administered, one for consent, and two surveys to conduct the study. The first survey asked for consent, a description of how the study would be conducted, and collected the respondents' work schedules and time zones. The next two surveys (survey A and B) split the variables into two subsets to maintain a manageable survey length and respondents were randomly assigned to one of the two surveys, generating two independent samples for study. To ensure item order did not influence results, a digram-balanced Latin square design was used to randomize the order items were presented to respondents (Wagenaar, 1969).

Respondents were compensated \$0.50 for Time 1 survey and \$3.50 for Time 2 survey, totaling \$4 for successful completion of both surveys. Time 1 survey had an estimated completion time of 1-2 minutes and Time 2 survey had an estimated completion of 10-15 minutes. After respondents completed the Time 1 survey, the Time 2 survey was deployed during a time in which the respondent indicated they would be working. A total of 602 respondents completed the Time 1 survey with a 94% completion rate of the Time 2 survey. Survey A had a total of 284 responses, and survey B had 278

responses. Following best practices to identify careless responses and promote data quality (DeSimone & Harms, 2018; Meade & Craig, 2012), six participants were removed from survey A for failing one of two instructed response attention checks and one respondent was removed due to their response on the self-report data quality question resulting in a final sample of 276 for survey A. Four participants were removed from survey B for failing one of two instructed response attention checks and two respondents were removed due to their answer on the self-report data quality item resulting in a final sample of 272 for survey B. Average respondent age across both surveys was 35 years old, 48% were female, and 70% were white.

Measures

Participants were asked to answer the questions by focusing on what they were doing over the last 10 minutes. Survey A included global workplace mindfulness, attention, awareness, curiosity, absorption, and metacognition for a total of 71 items. Survey B included global workplace mindfulness, attention, awareness, curiosity, mindlessness, flow, PANAS, and conscientiousness for a total of 83 items. A complete list of measures and items can be found in Appendix C.

Global workplace mindfulness and dimensions

Items retained after completion of study 1 and 2 were measured on a 7-point Likert amount scale (1=Not at all, 4=A moderate amount, 7=An extraordinary amount).

Absorption

Absorption was measured using five items from Rothbard's Work Engagement Survey adapted slightly for immediate reflection (2001). A sample item includes "When I was working, I was completely engrossed by my work" and all items will be measured

using a 7-point Likert agreement scale (1=Strongly Disagree, 4=Neither agree nor disagree, 7=Strongly agree).

Mindlessness

Mindlessness was measured using Brown and Ryan's Mindful Attention Awareness Scale (2003) that the authors adapted for measuring mindful states. This is a reverse scored survey that operationalizes mindfulness as a bipolar construct. Other authors also claim that the items are reflective of mindlessness, not mindfulness (Chiesa, 2013, Grossman, 2011). Items will be measured using a 7-point Likert amount scale (1=Not at all, 4=A moderate amount, 7=An extraordinary amount).

Positive and Negative Affect

Affect was measured using the 20-item Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) with the 'moment' time instructions. Items will be measured using a 7-point Likert scale (1=Very slightly or not at all, 4=Moderately, 7=Extremely).

Flow

Flow was measured using the Flow Short Scale (Rheinberg, Vollmeyer, & Engeser, 2003). This is a 13-item measure with 10-items focused on flow using a 7-point Likert scale (1=Not at all, 4=Partly, 7=Very much) and 3-items related to the perceived importance and difficulty of the task using a 7-point Likert scale (1= Easy, 7=Difficult), (1=Low, 7=High), (1=Too low, 4=Just right, 7=Too high).

Metacognition

Metacognition was measured using the Generalized Measure of Adaptive Cognition developed by Haynie and Shepherd (2009). To my knowledge, this is the only

measure of metacognition that is used in the organizational and behavioral sciences. The items were measured using a 7-point Likert amount scale (1=Not at all, 4=A moderate amount, 7=An extraordinary amount) which is different from the similarity scale the original authors used. There is legitimate concern about using response formats that differ from the original scale (Heggstad et al. 2019), however for this study I believe an amount scale is more appropriate for metacognition and preliminary evidence has been presented to support this claim (Lambert et al., 2021).

CHAPTER XI

STUDY 3 NOMOLOGICAL NETWORK ANALYSIS RESULTS

Measurement and Structural Model Results

Two independent samples were analyzed for each of the surveys capturing all variables in the proposed nomological network. Descriptive statistics for all variables are presented in Table 14 for survey A and Table 16 for survey B. To test for convergent and discriminant validity, composite scores were calculated for all variables and correlations were analyzed for the predicted relationships. Inter-item correlations for the global measure and dimensions of workplace mindfulness are outlined in Table 13 for survey A and Table 15 for survey B.

Please See Table 14

Please See Table 16

Please See Table 13

Please See Table 15

In study 2, attention was correlated with global workplace mindfulness at ($r = .68$), whereas awareness and the global construct were correlated at ($r = .71$) and curiosity at ($r = .59$). None of the relationships between the global construct and dimensions in study 2 raised concerns with discriminant validity. When analyzing the inter-item correlations and construct correlations in study 3, it stands out that global workplace mindfulness and attention were highly correlated (survey A: $r = .84$), (survey B: $r = .89$), which led to concerns that the two may be capturing the same construct and are not distinct variables. A closer look at the descriptive statistics for attention between the two studies reveals the mean for attention in study 2 ($\bar{x} = 4.64$, $\sigma = 1.26$) was quite lower than in study 3 (survey A: $\bar{x} = 5.63$, $\sigma = 1.08$), (survey B: $\bar{x} = 5.27$, $\sigma = 1.15$) which may be impacted by the study design. In study 2, the sample included college students who were notified via text to complete the study. The study 2 respondents could have physically been anywhere and may have been completing a variety of tasks. In study 3, the sample included working adults who complete surveys on Prolific for compensation and received the study notification via email. Study 3 participants would have likely been at their computer when completing the survey and it is possible that their work included completing surveys for an extended period.

Additional CFAs were conducted to analyze the revised models. Fit indices are presented in Table 17 for survey A and Table 18 for survey B. For the dimensions that did not change from the last study, model fit statistics remained good except for RMSEA. The RMSEA statistic increased in study 3 outcomes, but may be attributed to the impact that fewer degrees of freedom can influence this statistic (Kenny, Kaniskan, & McCoach, 2014). Compared to the hypothesized models from study 2, the fit indices for both global workplace mindfulness and awareness improved. The global workplace mindfulness model improved from study 2 fit indices ($\chi^2 = 64.51$ ($df = 14$) ($p < .05$); CFI = .95; RMSEA = .09 [.07, .12]) to study 3 fit indices of (survey A: $\chi^2 = 25.07$ ($df = 5$) ($p < .05$); CFI = .98; RMSEA = .12 [.08, .17]) and (survey B: $\chi^2 = 28.56$ ($df = 5$) ($p < .05$); CFI = .98; RMSEA = .13 [.09, .18]). Awareness also improved from study 2 fit indices ($\chi^2 = 202.58$ ($df = 14$) ($p < .05$); CFI = .87; RMSEA = .18 [.16, .20]) to study 3 fit indices of (survey A: $\chi^2 = 15.30$ ($df = 2$) ($p < .05$); CFI = .99; RMSEA = .15 [.09, .23]) and (survey B: $\chi^2 = 15.86$ ($df = 2$) ($p < .05$); CFI = .99; RMSEA = .16 [.09, .24]). The three-factor model including the dimensions demonstrated tolerable fit (survey A: $\chi^2 = 196.10$ ($df = 51$) ($p < .05$); CFI = .95; RMSEA = .10 [.09, .12]) and (survey B: $\chi^2 = 251.44$ ($df = 51$) ($p < .05$); CFI = .93; RMSEA = .12 [.11, .14]).

Please See Table 17

Please See Table 18

Next the structural model for both surveys was analyzed to test how well the dimensions predicted global workplace mindfulness. For the survey A sample, the structural model with the three dimensions predicting global workplace mindfulness demonstrated reasonable fit ($\chi^2 = 323.72$ ($df = 113$) ($p < .05$); CFI = .95; RMSEA = .08 [.07, .09]), but the path from curiosity to global workplace mindfulness was non-significant ($p > .05$) which can be seen in Figure 5.

Please See Figure 5

The structural model with the three dimensions predicting global workplace mindfulness for the survey B sample demonstrated reasonable fit ($\chi^2 = 387.66$ ($df = 113$) ($p < .05$) NS; CFI = .94; RMSEA = .10 [.08, .11]), however this time all paths to global workplace mindfulness were significant ($p \leq .05$) which can be seen in Figure 6.

Please See Figure 6

Nomological Network Analysis Results

For variables in the proposed nomological network, most of the predicted relationships were supported, but there were a few exceptions. Starting with results from survey A, absorption overall had a weak relationship ($r = .30$) with workplace mindfulness at a global level. At the dimension level, I had predicted a strong relationship between attention and absorption, but the relationship only appeared as weak ($r = .37$). This may help demonstrate that while both constructs have an element of attention, the

intensity and breadth of attention may vary in each and tap into very different cognitive states.

Next looking at overall metacognition, the relationship with global workplace mindfulness was weak ($r = .35$). The dimensions of metacognition were also weakly correlated with the dimensions of workplace mindfulness with a few exceptions. Curiosity had a moderate relationship with the overall metacognition construct ($r = .63$) along with each metacognition dimension ranging from ($r = .49-.63$). While describing mindfulness as a metacognitive practice may be a step too far based on most of the relationships being weak, these results may demonstrate that curiosity could be the link between these two constructs. The overall relationship between the workplace mindfulness dimensions and the metacognitive experience factor were also moderate ($r = .40-.49$). The definition for the metacognitive experience suggests how it is related to workplace mindfulness:

“The extent to which the individual relies on idiosyncratic experiences, emotions, and intuitions when engaging in the process of generating multiple decision frameworks focused on interpreting, planning, and implementing goals to 'manage' a changing environment” (Haynie & Shepherd 2009),

If global workplace mindfulness is an engaged state of alertness that relies on attention, awareness, and curiosity, then it would likely be related to a state in which an individual is aware of their experiences, emotions, and intuitions and how those affect the decisions they make. While this indicates that there is some overlap between workplace mindfulness and metacognition, this analysis also supports they are distinct in many aspects.

Moving to results from survey B, the relationship between global workplace mindfulness and mindlessness was predicted to be negative and moderate which was supported ($r = -.59$). At the dimension level, curiosity was predicted to have a negative and weak relationship with mindlessness ($r = -.31$). These predicted relationships help build the case that mindlessness cannot be simply described as the opposite of mindfulness. This finding is consistent with Grossman's argument that content validity has been overlooked when trying to operationalize mindfulness with items related to inattention or mindlessness (2011). This study provides the first piece of evidence for building the case that these are distinct, but related constructs. In addition these results complement what was shown with the relationship between absorption and mindfulness as well, an extreme level of focus is also a distinct, yet related state.

Flow and positive affect had the strongest correlations with global workplace mindfulness ($r \geq .60$). At the dimension level, attention had the strongest relationship with the constructs of flow ($r = .70$) and positive affect ($r = .57$). The definition of positive affect mentions the feelings of being active and alert which correlate with the proposed definition of workplace mindfulness. The dimensions all had moderate correlations with positive affect ($r = .43-.57$), which supports that the constructs are related, but also distinct. Flow had the strongest correlation with global workplace mindfulness ($r = .68$) out of all variables included in the nomological network. At the dimension level, both awareness ($r = .38$) and curiosity ($r = .38$) had weaker, positive correlations with flow, but attention demonstrated a strong positive correlation ($r = .70$). Flow is a state of high focus which supports the strong relationship with the attention dimension, however since

the other two dimensions had weak relationships, this provides some evidence of discriminant validity. that flow and workplace mindfulness states are unique.

At the global level, conscientiousness and workplace mindfulness had a positive and moderate relationship ($r = .49$). The three dimensions for workplace mindfulness demonstrated weak to moderate positive relationships ($r = .26-.45$). While it could be assumed that conscientious individuals may demonstrate higher levels of workplace mindfulness, these constructs are related but not the same. Conscientiousness is a trait and further research is needed to determine the effect it has on individuals' abilities to demonstrate higher levels of workplace mindfulness.

Study 3 Discussion

Overall, in study 3 model fit improved for the revised measurement and structural models. However, consistent with their high construct correlations, attention and global workplace mindfulness may overlap too much which is problematic. The samples between study 2 and 3 were very different, with college students working a part time job in study 2 compared to survey respondents sitting at a computer for extended periods for study 3. There are two possible implications of this 1) the medium through which the respondents were alerted to complete the survey varied which could impact the type of tasks they were performing prior to survey completion (study 2 was alerted via text message while study 3 was alerted via email) and 2) the type of work between samples could have also been a factor with college students working in a variety of settings versus individuals completing surveys. It is possible that these differences could have influenced scores for the attention related construct. Survey taking may require a higher level of attention to complete compared to other work-related tasks. While this may be a possible

explanation, it cannot be concluded this is the reason why the scores and correlations varied so much between studies. The best way to test this theory will be to conduct a follow up study using a sample of diverse working professions and prompting them to respond at multiple points during their work day.

CHAPTER XII

CONCLUSION

I intended to make three primary contributions in this paper. First, by taking a state-based temporal perspective, I defined global workplace mindfulness and the dimensions predicting this state. By defining workplace mindfulness as a state, rather than a trait, my definition enables researchers to focus on the variability that this construct demonstrates versus defining a distinct start and stop to the state effect. This work also aimed to integrate several commonly used definitions, including two foundational yet competing approaches to defining mindfulness from Ellen Langer and John Kabat-Zinn. By doing so, this definition incorporated critical attributes emphasized by prior researchers facilitating future research on mindfulness.

The second contribution is developing a measure of workplace mindfulness. By defining workplace mindfulness as a state that fluctuates throughout time and focusing on both the high and low levels that can be experienced, researchers are better able to understand how this construct can impact work. The present research addresses methodological concerns prior researchers have emphasized relating to defining the polarity of mindfulness, self-assessments of trait mindfulness, and the importance of using a measure that reflects an immediate experience to study this construct. A

multidimensional model was established to provide researchers with the opportunity to determine the appropriate level of specificity in their research. The studies conducted in this paper provide initial evidence to support this approach, but further modification and testing is needed. Four dimensions were initially proposed in the model, but the overlap between two of the dimensions, mindful regulation and attention, led to dropping mindful regulation. While I made the theoretical argument that a level of intentionality or regulation was necessary to conceptualize workplace mindfulness, the evidence did not support this claim. In addition, the curiosity dimension inconsistently predicted global workplace mindfulness throughout the studies.

The third contribution is that my definition of workplace mindfulness is differentiated from mindlessness and metacognition. The evidence from study 3 suggested that these three constructs were distinguishable from each other and that they should be treated as distinct. Going forward, researchers should avoid using mindfulness and metacognition interchangeably and should be more precise in their discussions of these two constructs.

Practical implications

From a practical perspective, this research may enable employers to better understand how workplace mindfulness can impact their employees and organizations. More specifically, the measure developed in this paper could help researchers and organizations better understand the antecedents and outcomes of workplace mindfulness. By understanding what helps facilitate mindful states at work, organizations could determine how they could promote a work environment that would better support workplace mindfulness. Determining how workplace mindfulness impacts work could

also help researchers and organizations learn how mindfulness could be helpful or harmful in different situations.

Limitations

As with any study, this study has limitations. First, these measures should be tested using a diverse sample of working professionals. It is possible that using a sample from a platform like Prolific, where respondents work tasks could consist mainly of taking surveys meaning there may not be a lot of variety in the types of tasks across the sample, could have influenced the study results. Means and correlations varied significantly between studies 2 and 3 which may have been influenced by the type of work being performed in the second study, i.e., survey taking. Taking surveys for extended periods of time requires some level of attention but may not offer opportunities to experience curiosity. In follow up studies, it will be important to include respondents engaged in a variety of work tasks in the sample to help mitigate any effects of any one type of activity.

Second, determining a way to define and measure a multidimensional construct at both the global and dimension level was a challenge. Items primarily reflecting attention in the global measure were retained, and most of the items that would have correlated with curiosity and awareness were dropped due to low internal rater agreement or low factor loadings. Curiosity was only shown to significantly predict global workplace mindfulness in one sample. While I made a theoretical argument to why curiosity is important in predicting global workplace mindfulness, most of the remaining items for the global measure did not include language that reflected the meaning of curiosity. This was an oversight on my part during the measure refinement process. Further refinement

of the global measure may be needed in future studies to ensure that global workplace mindfulness is fully captured.

Finally, while I worked to create a state-based measure of workplace mindfulness and believe that mindfulness levels fluctuate throughout the day, this idea was not directly tested. It is critical that future studies assess how levels vary throughout the day and my hope is the measure that was developed through the series of studies in this paper can help with that. Ideally, a follow-up study would adopt a true experience sampling design and ping participants multiple times throughout the day over a week or more. This will allow researchers to understand how significantly workplace mindfulness varies and if any patterns emerge.

Future research

Mindfulness may fluctuate throughout the day, and perhaps future research could consider two main advantages stemming from this idea. First, workers can better determine when mindfulness levels are low and make an adjustment in how they approach their work. Second, if individuals can identify patterns in their mindfulness levels, they may be able to better coordinate work tasks around the times of day that they experience higher or lower levels of mindfulness. For example, if an employee tends to experience higher levels of mindfulness in the early part of the day, they may be able to better coordinate time to work on tasks that require more creativity versus other tasks that are more mundane that could be accomplished during lower levels of mindfulness like checking email. Continuing to study workplace mindfulness as a state will help understand the implications this has on work outcomes.

Summary

In summary this paper worked to establish both a definition and measure for workplace mindfulness. A multidimensional model was proposed with four dimensions predicting global workplace mindfulness, however only three dimensions were retained in the final model. Through a series of studies some evidence for construct validity was provided along with support for convergent and discriminant validity through an assessment of a proposed nomological network for workplace mindfulness. Additional measure refinement may be needed to understand how the dimensions predict global workplace mindfulness. Future research will help understand how studying mindfulness as a state at work can impact work outcomes.

REFERENCES

- Alexander, C. N., Langer, E. J., Newman, R. I., Chandler, H. M., & Davies, J. L. (1989). Transcendental meditation, mindfulness, and longevity: an experimental study with the elderly. *Journal of personality and social psychology*, 57(6), 950.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.
- Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11(3), 191-206.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using Self-Report Assessment Methods to Explore Facets of Mindfulness. *Assessment*, 13(1), 27-45.
- Barrick, M. R., & Mount, M. K. (1993). Autonomy as a moderator of the relationships between the Big Five personality dimensions and job performance. *Journal of applied Psychology*, 78(1), 111.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... & Devins, G. (2004). Mindfulness: a proposed operational definition. *Clinical psychology: Science and practice*, 11(3), 230.
- Bodner, T., & Langer, E. (2001). Individual differences in mindfulness: The mindfulness/mindlessness scale. Paper presented at the Poster presented at the 13th annual American Psychological Society Convention, Toronto, Ontario, Canada.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, 84(4), 822.
- Brown, K. W., & Ryan, R. M. (2004). Perils and promise in defining and measuring mindfulness: observations from experience.
- Brown, R., Ryan & Creswell (2007) Mindfulness: Theoretical Foundations and Evidence for its Salutary Effects, *Psychological Inquiry*, 18(4), 211-237.
- Campbell, D. T., & Fiske, D. W. 1959. Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2): 81-105.

- Cardaciotto, L., Herbert, J. D., Forman, E. M., Moitra, E., & Farrow, V. (2008). The assessment of present-moment awareness and acceptance: The Philadelphia Mindfulness Scale. *Assessment*, 15(2), 204-223.
- Chadwick, P., Hember, M., Symes, J., Peters, E., Kuipers, E., & Dagnan, D. (2008). Responding mindfully to unpleasant thoughts and images: reliability and validity of the Southampton mindfulness questionnaire (SMQ). *British Journal of Clinical Psychology*, 47(4), 451-455.
- Chiesa, A., (2013). "The difficulty of defining mindfulness: Current thought and critical issues." *Mindfulness* 4, no. 3: 255-268.
- Colquitt, J. A., Sabey, T. B., Rodell, J. B., & Hill, E. T. (2019). Content validation guidelines: Evaluation criteria for definitional correspondence and definitional distinctiveness. *Journal of Applied Psychology*, 104(10), 1243.
- Cortina, J. M. (2022). Methodological wishes for generating and reporting empirical findings: Perhaps we should take measurement seriously. In Society for Industrial and Organizational Psychology 2022 Meeting.
- Cortina, J. M., Sheng, Z., Keener, S. K., Keeler, K. R., Grubb, L. K., Schmitt, N., ... & Banks, G. C. (2020). From alpha to omega and beyond! A look at the past, present, and (possible) future of psychometric soundness in the *Journal of Applied Psychology*. *Journal of Applied Psychology*, 105(12), 1351.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- Dane, E. (2011). Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of management*, 37(4), 997-1018.
- Dane, E., & Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human relations*, 67(1), 105-128.
- Davidson, R. J., & Kaszniak, A. W. (2015). Conceptual and methodological issues in research on mindfulness and meditation. *American Psychologist*, 70(7), 581.
- DeSimone, J. A., & Harms, P. D. (2018). Dirty data: The effects of screening respondents who provide low-quality data in survey research. *Journal of Business and Psychology*, 33(5), 559-577.
- Edwards, J. R. (2001). Multidimensional constructs in organizational behavior research: An integrative analytical framework. *Organizational research methods*, 4(2), 144-192.
- Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J.-P. (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of psychopathology and Behavioral Assessment*, 29(3), 177.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American psychologist*, 34(10), 906.

- Gellatly, I. R. (1996). Conscientiousness and task performance: Test of cognitive process model. *Journal of Applied Psychology*, 81(5), 474.
- Glomb, T. M., Duffy, M. K., Bono, J. E., & Yang, T. (2011). Mindfulness at work. In *Research in personnel and human resources management*. Emerald Group Publishing Limited.
- Good, D. J., Lyddy, C. J., Glomb, T. M., Bono, J. E., Brown, K. W., Duffy, M. K., ... & Lazar, S. W. (2016). Contemplating mindfulness at work: An integrative review. *Journal of management*, 42(1), 114-142.
- Grossman, P. (2008). On measuring mindfulness in psychosomatic and psychological research.
- Grossman, P. (2011). Defining mindfulness by how poorly I think I pay attention during everyday awareness and other intractable problems for psychology's (re) invention of mindfulness: comment on Brown et al.(2011).
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of psychosomatic research*, 57(1), 35-43.
- Hafenbrack, A. C., Cameron, L. D., Spreitzer, G. M., Zhang, C., Noval, L. J., & Shaffakat, S. (2020). Helping people by being in the present: Mindfulness increases prosocial behavior. *Organizational Behavior and Human Decision Processes*, 159, 21-38.
- Hafenbrack, A. C., Kinias, Z., & Barsade, S. G. (2014). Debiasing the mind through meditation: Mindfulness and the sunk-cost bias. *Psychological science*, 25(2), 369-376.
- Haigh, E. A., Moore, M. T., Kashdan, T. B., & Fresco, D. M. (2011). Examination of the factor structure and concurrent validity of the Langer Mindfulness/Mindlessness Scale. *Assessment*, 18(1), 11-26.
- Haynie, M., & Shepherd, D. A. (2009). A measure of adaptive cognition for entrepreneurship research. *Entrepreneurship Theory and Practice*, 33(3), 695-714.
- Haynie, J. M., Shepherd, D., Mosakowski, E., & Earley, P. C. (2010). A situated metacognitive model of the entrepreneurial mindset. *Journal of business venturing*, 25(2), 217-229.
- Heggestad, E. D., Scheaf, D. J., Banks, G. C., Monroe Hausfeld, M., Tonidandel, S., & Williams, E. B. (2019). Scale adaptation in organizational science research: A review and best-practice recommendations. *Journal of Management*, 45(6), 2596-2627.
- Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational research methods*, 1(1), 104-121.
- Hinkin, T. R., & Tracey, J. B. (1999). An analysis of variance approach to content validation. *Organizational Research Methods*, 2, 175-186.

- Hülshager, U. R., Alberts, H. J., Feinholdt, A., & Lang, J. W. (2013). Benefits of mindfulness at work: the role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of applied psychology, 98*(2), 310.
- Hülshager, U. R., Lang, J. W., Depenbrock, F., Fehrmann, C., Zijlstra, F. R., & Alberts, H. J. (2014). The power of presence: the role of mindfulness at work for daily levels and change trajectories of psychological detachment and sleep quality. *Journal of Applied Psychology, 99*(6), 1113.
- Jackson, D. L. (2001). Sample size and number of parameter estimates in maximum likelihood confirmatory factor analysis: A Monte Carlo investigation. *Structural Equation Modeling, 8*(2), 205-223.
- Jackson, D. L., Gillaspay Jr, J. A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: an overview and some recommendations. *Psychological methods, 14*(1), 6.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology, 69*(1), 85-98.
- Johnson, R. E., Rosen, C. C., & Chang, C. H. (2011). To aggregate or not to aggregate: Steps for developing and validating higher-order multidimensional constructs. *Journal of Business and Psychology, 26*(3), 241-248.
- Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General hospital psychiatry, 4*(1), 33-47.
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: mindfulness meditation in everyday life*. White Plains, NY: Hyperion.
- Kabat-Zinn, J. (2003). *Mindfulness-based interventions in context: past, present, and future*.
- Kashdan, T. B., Rose, P., & Fincham, F. D. (2004). Curiosity and exploration: Facilitating positive subjective experiences and personal growth opportunities. *Journal of personality assessment, 82*(3), 291-305.
- Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The performance of RMSEA in models with small degrees of freedom. *Sociological methods & research, 44*(3), 486-507.
- Kiken, L. G., Garland, E. L., Bluth, K., Palsson, O. S., & Gaylord, S. A. (2015). From a state to a trait: Trajectories of state mindfulness in meditation during intervention predict changes in trait mindfulness. *Personality and Individual differences, 81*, 41-46.
- Kudesia, R. S. (2019). Mindfulness as metacognitive practice. *Academy of Management Review, 44*(2), 405-423.

- Kudesia, R. S., & Lau, J. (2020). Metacognitive practice: Understanding mindfulness as repeated attempts to understand mindfulness. In *The Routledge companion to mindfulness at work* (pp. 39-53). Routledge.
- Kudesia, R. S., Pandey, A., & Reina, C. S. (2020). Doing More With Less: Interactive Effects of Cognitive Resources and Mindfulness Training in Coping With Mental Fatigue From Multitasking. *Journal of Management*, 0149206320964570.
- Lambert, L.S., Gray, T., Davis, A., Erdmann, M., Mcdermott, R. (2021). An overlooked aspect of measurement: Does the content of verbal anchors matter? In Southern Management Association 2021 Meeting.
- Lambert, L. S., & Newman, D. A. (2022). Construct development and validation in three practical steps: Recommendations for reviewers, editors, and authors. *Organizational Research Methods*.
- Lance, C. E., & Vandenberg, R. J. (2002). Confirmatory factor analysis. In F. Drasgow, & N. Schmitt (Eds.), *Measuring and analyzing behavior in organizations: Advances in measurement and data analysis*: 221-254. San Francisco, CA, US: Jossey-Bass.
- Langer, E. J., & Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. *Journal of personality and social psychology*, 34(2), 191.
- Langer, E. J., Beck, P., Winman, C., Rodin, J., & Spitzer, L. (1979). Environmental determinants of memory improvement in late adulthood. *Journal of Personality and Social Psychology*, 37(11), 2003.
- Langer, E. J. (1989). Minding matters: The consequences of mindlessness–mindfulness. In L. Berkowitz's (Ed.) *Advances in Experimental Social Psychology* (Vol. 22, pp. 137–173). San Diego, CA: Academic Press.
- Lau, M. A., Bishop, S. R., Segal, Z. V., Buis, T., Anderson, N. D., Carlson, L., . . . Devins, G. (2006). The Toronto mindfulness scale: Development and validation. *Journal of clinical psychology*, 62(12), 1445-1467.
- MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *Journal of applied psychology*, 90(4), 710.
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, 17(3), 437-455.
- Melzack, R., & Wall, P. D. (1965). Pain Mechanisms: A New Theory: A gate control system modulates sensory input from the skin before it evokes pain perception and response. *Science*, 150(3699), 971-979.
- Moses, L. J., Baird, J., Wilson, R. A., & Keil, F. C. (1999). *The MIT encyclopedia of the cognitive sciences*.
- Perfect, T. J., & Schwartz, B. L. (Eds.). (2002). *Applied metacognition* (Vol. 15). Cambridge: Cambridge University Press.

- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016). Recommendations for creating better concept definitions in the organizational, behavioral, and social sciences. *Organizational Research Methods, 19*(2), 159-203.
- Quinn, R. W. 2005. Flow in knowledge work: High performance experience in the design of national security technology. *Administrative Science Quarterly, 50*: 610-641.
- Reina, C. S. (2020). A multidimensional conceptualization of mindfulness at work. *The Routledge Companion to Mindfulness at Work*.
- Reina, C. S., & Kudesia, R. S. (2020). Wherever you go, there you become: How mindfulness arises in everyday situations. *Organizational Behavior and Human Decision Processes, 159*, 78-96.
- Reise, S. P., & Waller, N. G. (2009). Item response theory and clinical measurement. *Annual review of clinical psychology, 5*, 27-48.
- Rheinberg, F., Vollmeyer, R., & Engeser, S. (2003). Die erfassung des flow-erlebens.
- Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative science quarterly, 46*(4), 655-684.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will?. *Journal of personality, 74*(6), 1557-1586.
- Schwab, D. P. 1980. Construct validity in organizational behavior. In B. M. Staw and L. L. Cummings (Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews*. Greenwich, CT: JAI Press
- Shipp, A. J., Edwards, J. R., & Lambert, L. S. (2009). Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational behavior and human decision processes, 110*(1), 1-22.
- Tanay, G., & Bernstein, A. (2013). State Mindfulness Scale (SMS): development and initial validation. *Psychological assessment, 25*(4), 1286.
- Tay, L., & Jebb, A. T. (2018). Establishing construct continua in construct validation: The process of continuum specification. *Advances in Methods and Practices in Psychological Science, 1*(3), 375-388.
- Wagenaar, W. A. 1969. Note on the construction of digram-balanced Latin squares. *Psychological Bulletin, 72*(6): 384-386.
- Walach, H., Buchheld, N., Buttenmüller, V., Kleinknecht, N., & Schmidt, S. (2006). Measuring mindfulness—the Freiburg mindfulness inventory (FMI). *Personality and individual differences, 40*(8), 1543-1555.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology, 54*(6), 1063.
- Weick, K. E., & Putnam, T. (2006). Organizing for mindfulness: Eastern wisdom and Western knowledge. *Journal of management inquiry, 15*(3), 275-287.

- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (1999). Organizing for high reliability: processes of collective mindfulness, *Research in organizational behaviour*.
- Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and cognition*, 19(2), 597-6.
- Zheng, X., Ni, D., Liu, X., & Liang, L. H. (2022). Workplace Mindfulness: Multidimensional Model, Scale Development and Validation. *Journal of Business and Psychology*, 1-25.
- Zickar, M. J. (2020). Measurement development and evaluation. *Annual Review of Organizational Psychology and Organizational Behavior*, 7, 213-232.

APPENDICES

APPENDIX A: Tables

Table 1: Definitional Attributes and Overlap

Author/Year	Definition	Attributes					Overlaps with Metacognition
		Attention	General awareness	Present moment	Curiosity	Intentional	
Langer, 1989, p. 4	A general style or mode of functioning through which the individual actively engages in reconstructing the environment through creating new categories or distinctions, thus directing attention to new contextual cues that may be consciously controlled or manipulated as appropriate.	✓			✓	✓	✓
Kabat-Zinn, 2003, p. 145	The awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment.	✓	✓	✓		✓	✓
Brown & Ryan, 2003, p. 822	A receptive attention to and awareness of present events and experiences.	✓	✓	✓			
Lau et al., 2006, p. 1447	The proposed two-component mindfulness definition was (a) the intentional self-regulation of attention to facilitate greater awareness of bodily sensations, thoughts, and emotions; and (b) a specific quality of attention characterized by endeavoring to connect with each object in one's awareness (e.g., each bodily sensation, thought, or emotion) with curiosity, acceptance, and openness to experience.	✓	✓		✓	✓	✓

Dane, 2011, p. 1000	A state of consciousness in which attention is focused on present-moment phenomena occurring both externally and internally.	✓		✓			
Glob et al., 2011, p. 119	A state of consciousness characterized by receptive attention to and awareness of present events and experiences, without evaluation, judgment, and cognitive filters.	✓	✓	✓			✓
Holsinger, 2014, p. 1114	Mindfulness is a state of consciousness in which individuals pay attention to the present moment with an accepting and nonjudgmental attitude.	✓		✓			✓
Zheng et al., 2022, p. 4	Workplace mindfulness is a set of skills for maintaining attention and awareness of one's current internal experience and external work environment with acceptance at work.	✓	✓	✓			✓

Table 2: Current Measures of Mindfulness

Scale	Authors	Factor Structure	Effect	Construct Captured	Reflective/Formative	Items	Fit Indices
Mindfulness/Mindlessness Scale (MMS)	Bodner and Langer (2001)	4 Factor: Novelty Seeking, Novelty Producing, Engagement, Flexibility	Trait	Mindfulness & Mindlessness	Reflective**	21	χ^2 sig, CFI = .64 RMSEA = .09 SRMR = .12
Revised Mindfulness/Mindlessness Scale (MMS)	Haigh, Moore, Kasdan, & Fresco (2011)	Single Factor	Trait	Mindfulness	N/A	9	χ^2 sig, CFI = .97 RMSEA = .05 SRMR = .04
Mindfulness Attention Awareness Scale - Trait (MAAS)	Brown and Ryan (2003)	Single Factor	Trait	Mindlessness	N/A	15	$\chi^2 = 179.14$, CFI = .92 RMSEA = .065
Kentucky Inventory of Mindfulness Skills (KIMS)	Ruth A Baer, Smith, & Allen (2004)	4 Factor: Observing, Describing, Acting with Awareness, Accepting without Judgment	Trait	Mindfulness & Mindlessness*	Reflective**	39	CFI = .95 RMSEA = .07
Five Factor Mindfulness Questionnaire (FFMQ)	Ruth A. Baer, Smith, Hopkins, Krietemeyer, & Toney (2006)	5 Factor: Observing, Describing, Acting with Awareness, Nonjudging of Inner Experience, Nonreactivity to Inner Experience	Trait	Mindfulness & Mindlessness*	Hierarchical reflective	39	CFI = .96 RMSEA = .06
Freiburg Mindfulness Inventory (FMI)	Walach, Buchheld, Buittenmüller, Kleinknecht, & Schmidt (2006)	4 Factor: Mindful Presence, Non-judgmental Acceptance, Openness to Experiences, Insight	Trait	Mindfulness	Reflective**	14	CFA N/A
Toronto Mindfulness Scale (TMS) State	Lau et al. (2006)	2 Factor: Curiosity, Decentering	State	Mindfulness	Reflective	13	χ^2 sig, CFI = .94,.92
Cognitive and Affective Mindfulness Scale–Revised (CAMS-R)	Feldman, Hayes, Kumar, Greeson, & Laurenceau (2007)	4 Factor: Attention, Present-Focus, Awareness, Acceptance	Trait	Mindfulness & Mindlessness*	Reflective	12	χ^2 sig, CFI = .95 RMSEA = .05 SRMR = .05
Southampton Mindfulness Questionnaire (SMQ)	Chadwick et al. (2008)	Single Factor	Trait	Mindfulness & Mindlessness*	N/A	16	CFA N/A
Philadelphia Mindfulness Questionnaire (PMQ)	Cardaciotto, Herbert, Forman, Moitra, & Farrow (2008)	2 Factor: Present-moment Awareness, Acceptance	Trait	Mindfulness & Mindlessness*	Reflective	20	χ^2 sig, CFI = .91 RMSEA = .05
Workplace Mindfulness Scale (WMS)	Reina (2020)	5 Factor: Presence, Observe, Nonreactivity, Nonjudgment, Decentering	Trait	Mindfulness & Mindlessness*	Reflective**	19	χ^2 sig, CFI = .96 RMSEA = .05

M@Work Scale	Hulsheger & Alberts (2020)	4 Factor: Describing, Nonreactivity, Nonjudgment, Act with Awareness	Trait	Mindfulness & Mindlessness*	Reflective**	22	χ^2 sig, CFI = .97 RMSEA = .03 SRMR = .05
State Mindfulness Scale (SMS)	Tanya & Bernstein (2013)	2 Factor: Body Mindfulness, Mind Mindfulness	State	Mindfulness	Reflective	21	χ^2 sig, CFI = .92 RMSEA = .08 RMSR = .08
Workplace Mindfulness Scale (WMS)	Zheng, Ni, Liu, & Liang (2022)	3 Factor: Attention, Awareness, Acceptance	Skills	Mindfulness	Reflective	18	χ^2 sig, CFI = .93 RMSEA = .07 SRMR = .07

Note: *Indicates that the authors did not explicitly state that reverse scored items were intended to measure mindlessness, but it was my interpretation.

**Indicates that authors did not directly state if the model had reflective indicators, but it is was interpreted.

Table 3: Study 1 Item to Definition Correspondence

Construct	Item	\bar{x}	r _{WG}	σ
Global	WM_1 I stayed with what I was doing the entire time.	3.34	0.24	1.23
Workplace	WM_2 I was in control of my focus.	3.79	0.56	0.94
Mindfulness	WM_3 I remained open to new ways of doing things.	2.03	0.38	1.12
	WM_4 I noticed any reactions that I had.	3.17	0.04	1.44
	WM_5 I looked for a new way of thinking about what I was doing.	2.03	0.41	1.09
	WM_6 I knew what was happening around me.	3.90	0.42	1.08
	WM_7 I noticed thoughts come and go.	3.00	0.11	1.34
	WM_8 I was thoughtful in how I carried out what I was doing.	4.10	0.59	0.90
	WM_9 I remained focused despite was occurring around me.	3.90	0.42	1.08
	WM_10 I was aware of what was occurring in my environment.	3.59	0.16	1.30
	WM_11 I kept an open-mind to what I was experiencing.	2.24	0.23	1.24
	WM_12 I was alert the entire time.	4.07	0.22	1.25
	WM_13 I noticed what I was doing.	3.97	0.52	0.98
Intention	INT_1 I was intentional about what I was doing.	3.96	0.24	1.23
	I consciously avoided temptations that would distract me from what I was doing.			1.19
	INT_2	3.64	0.29	
	INT_3 I was intentional about keeping an open-mind.	3.25	0.46	1.04
	INT_4 I was thoughtful in working on what I was doing.	3.46	0.28	1.20
	I worked to maintain my focus on what I was doing the entire time.			1.23
	INT_5	3.50	0.24	
	INT_6 I was intentional about maintaining focus on the task.	3.79	0.02	1.40
	When my attention began to wander, I was able to redirect it back to what I was doing.			1.10
	INT_7	3.89	0.39	
Awareness	AWA_1 I was aware of what was going on in my environment.	4.68	0.81	0.61
	AWA_2 I was aware of what was happening around me.	4.64	0.81	0.62
	I was able to maintain awareness of what I was experiencing.			1.18
	AWA_3	4.07	0.30	
	I was able to notice thoughts or emotions I experienced during what was occurring.			1.17
	AWA_4	4.04	0.32	
	AWA_5 I remained observant to my surroundings.	4.36	0.66	0.83
	AWA_6 I was able to monitor what was occurring around me.	4.61	0.80	0.63
Attention	ATT_1 My attention was focused.	3.71	0.38	1.12
	ATT_2 I directed my attention to what I needed to focus on.	4.39	0.65	0.83
	ATT_3 I was able to redirect my attention as needed.	3.71	0.23	1.24
	I was able to maintain focus on what I was doing the entire time.			0.99
	ATT_4	4.11	0.51	
	My level of attention was appropriate for what I was doing.			1.19
	ATT_5	2.82	0.29	
	ATT_6 I managed distractions.	3.00	0.48	1.02
	ATT_7 I noticed necessary details in what I was doing.	3.29	0.41	1.08
Curiosity	CUR_1 I was interested in what was going on.	3.29	0.19	1.27
	CUR_2 I was open minded throughout the experience.	4.25	0.68	0.80
	CUR_3 I was examined thoughts or emotions I experienced.	2.32	0.18	1.28

CUR_4	I was curious about any reactions I experienced.	3.71	0.19	1.27
CUR_5	I was able to find what I was working on interesting.	2.79	0.13	1.32
CUR_6	I looked for new aspects in what I was doing.	4.32	0.66	0.82
CUR_7	I was interested in learning something.	4.00	0.48	1.02
	I considered different ways of approaching what I was			1.07
CUR_8	doing.	3.89	0.43	

Note: WM = global workplace mindfulness, MR = mindful regulation, AWA = awareness, ATT = attention, CUR = curiosity

Items in bold retained for study 2 with minor verbiage modifications made to specific items.

Table 4: Revised Construct Labels, Definitions, and Items for Study 2

Construct Label	Definition		Item
Global Workplace Mindfulness	<i>An engaged state of alertness towards work.</i>	WM_1	I was in control of my focus.
		WM_2	I knew what was happening around me.
		WM_3	I was thoughtful in how I carried out what I was doing.
		WM_4	I kept an open-mind while experiencing my work.
		WM_5	I was alert.
		WM_6	I noticed what I was doing.
		WM_7*	I was aware of what I was thinking about while working.
Mindful Regulation	<i>The extent to which an individual seeks out and maintains mindful states during work.</i>	MR_1	I was intentional about what I was doing.
		MR_2	I consciously avoided temptations that would distract me from what I was doing.
		MR_3	I was intentional about keeping an open-mind.
		MR_4	When my attention began to wander, I was able to redirect it back to what I was doing.
		MR_5*	I was intentional about putting my energy towards what I was working on.
		MR_6*	I remained connected to the goals I was working on.
Awareness	<i>The extent to which an individual monitors what is occurring during a work experience.</i>	AW_1	I was observant of what was going on throughout the experience.
		AW_2	I was aware of what was happening around me.
		AW_3	I maintained awareness of what I was experiencing.
		AW_4	I was able to notice the impact the experience had on me.
		AW_5	I remained observant of my surroundings.
		AW_6	I was able to monitor what was occurring around me.
		AW_7**	I was able to monitor my reactions during the experience.
Attention	<i>The extent to which an individual directs their focus to aspects of their work experience.</i>	ATT_1	My attention was focused.
		ATT_2	I directed my attention to what I needed to focus on.
		ATT_3	I was able to direct my focus as needed.
		ATT_4	I was able to maintain focus on what I was doing the entire time.
Curiosity	<i>The extent to which an individual remains open and seeks out new aspects during the work experience.</i>	CUR_1	I was open minded throughout the experience.
		CUR_2	I was curious about my reactions.
		CUR_3	During the experience I looked for new angles in what I was doing.
		CUR_4	I kept a fresh perspective about what I was doing.

Note: WM = global workplace mindfulness, MR = mindful regulation, AWA = awareness, ATT = attention, CUR = curiosity

*Item suggested by subject matter expert. **Item added after study completion based on researcher and chair input.

Table 5: Study 2 Inter-Item Correlation Table

Item	\bar{x}	σ	1	2	3	4	5	6	7	8	9	10	11	12	13
1. WM_1	4.75	1.22	1												
2. WM_2	5.00	1.42	.25**	1											
3. WM_3	4.88	1.33	.52**	.24**	1										
4. WM_4	4.76	1.30	.37**	.35**	.42**	1									
5. WM_5	4.77	1.47	.34**	.41**	.39**	.35**	1								
6. WM_6	5.16	1.32	.52**	.31**	.53**	.40**	.51**	1							
7. WM_7	4.94	1.42	.45**	.25**	.49**	.39**	.43**	.63**	1						
8. MR_1	5.01	1.32	.57**	.23**	.53**	.44**	.32**	.54**	.52**	1					
9. MR_2	3.85	1.63	.52**	.21**	.46**	.33**	.35**	.37**	.41**	.52**	1				
10. MR_3	4.32	1.52	.39**	.31**	.36**	.59**	.35**	.37**	.39**	.42**	.45**	1			
11. MR_4	4.35	1.43	.52**	.17**	.44**	.29**	.33**	.47**	.42**	.48**	.59**	.35**	1		
12. MR_5	4.99	1.23	.56**	.20**	.51**	.36**	.38**	.50**	.43**	.52**	.57**	.40**	.60**	1	
13. MR_6	4.86	1.32	.57**	.20**	.51**	.34**	.36**	.50**	.46**	.57**	.52**	.41**	.56**	.67**	1
14. AWA_1	4.79	1.25	.42**	.37**	.44**	.37**	.46**	.43**	.39**	.46**	.44**	.41**	.44**	.53**	.53**
15. AWA_2	4.68	1.41	.27**	.64**	.28**	.35**	.48**	.36**	.34**	.30**	.25**	.36**	.23**	.28**	.29**
16. AWA_3	4.74	1.22	.43**	.41**	.39**	.39**	.44**	.50**	.48**	.46**	.40**	.42**	.42**	.47**	.49**
17. AWA_4	4.19	1.54	.34**	.30**	.38**	.33**	.35**	.37**	.39**	.35**	.43**	.40**	.34**	.32**	.45**
18. AWA_5	4.54	1.39	.28**	.56**	.27**	.28**	.54**	.29**	.32**	.29**	.29**	.36**	.26**	.26**	.28**
19. AWA_6	4.54	1.42	.27**	.58**	.22**	.31**	.50**	.31**	.29**	.29**	.26**	.36**	.25**	.26**	.29**
20. AWA_7	4.41	1.35	.30**	.30**	.37**	.38**	.38**	.37**	.38**	.31**	.30**	.38**	.29**	.27**	.36**
21. ATT_1	4.67	1.39	.61**	.15**	.52**	.28**	.38**	.50**	.46**	.56**	.61**	.32**	.60**	.63**	.60**
22. ATT_2	4.79	1.38	.59**	.19**	.55**	.36**	.41**	.53**	.50**	.61**	.61**	.37**	.61**	.62**	.65**
23. ATT_3	4.79	1.33	.59**	.18**	.52**	.30**	.38**	.53**	.47**	.53**	.55**	.35**	.60**	.61**	.66**
24. ATT_4	4.31	1.47	.60**	.17**	.51**	.35**	.40**	.51**	.47**	.56**	.56**	.37**	.57**	.62**	.62**
25. CUR_1	4.63	1.33	.39**	.38**	.34**	.57**	.40**	.32**	.41**	.36**	.36**	.62**	.31**	.32**	.38**
26. CUR_2	3.69	1.57	.21**	.22**	.26**	.35**	.32**	.17**	.18**	.20**	.27**	.41**	.16**	.14**	.20**
27. CUR_3	3.91	1.63	.34**	.24**	.39**	.35**	.32**	.33**	.34**	.38**	.36**	.45**	.32**	.30**	.36**
28. CUR_4	4.11	1.50	.39**	.22**	.40**	.45**	.35**	.35**	.40**	.43**	.39**	.50**	.36**	.36**	.40**

Note: **Indicates $p < .001$; $N = 415-424$ WM = global workplace mindfulness, MR = mindful regulation, AWA = awareness, ATT = attention, CUR = curiosity

Table 5: Study 2 Inter-Item Correlation Table (cont.)

Item	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
14. AWA_1	1														
15. AWA_2	.54**	1													
16. AWA_3	.58**	.58**	1												
17. AWA_4	.47**	.38**	.54**	1											
18. AWA_5	.48**	.73**	.52**	.42**	1										
19. AWA_6	.42**	.70**	.50**	.37**	.75**	1									
20. AWA_7	.40**	.39**	.49**	.55**	.45**	.46**	1								
21. ATT_1	.47**	.23**	.48**	.42**	.26**	.26**	.35**	1							
22. ATT_2	.48**	.29**	.48**	.44**	.30**	.26**	.40**	.79**	1						
23. ATT_3	.44**	.26**	.46**	.38**	.30**	.31**	.38**	.71**	.76**	1					
24. ATT_4	.48**	.28**	.47**	.48**	.28**	.30**	.41**	.74**	.73**	.71**	1				
25. CUR_1	.45**	.39**	.48**	.43**	.41**	.41**	.46**	.39**	.43**	.42**	.45**	1			
26. CUR_2	.32**	.30**	.30**	.41**	.32**	.31**	.43**	.21**	.22**	.18**	.27**	.48**	1		
27. CUR_3	.44**	.29**	.39**	.40**	.35**	.25**	.38**	.35**	.42**	.37**	.40**	.45**	.51**	1	
28. CUR_4	.47**	.35**	.52**	.46**	.39**	.31**	.48**	.40**	.48**	.46**	.47**	.59**	.50**	.65**	1

Note: **Indicates $p < .001$; N=415-424 WM = global workplace mindfulness, MR = mindful regulation, AWA = awareness, ATT = attention, CUR = curiosity

Table 6: Study 2 Construct Correlations and Reliabilities

Construct	\bar{x}	σ	α	1	2	3	4	5
1. Global Workplace Mindfulness	4.90	0.95	0.83	1				
2. Mindful Regulation	4.58	1.08	0.86	.75**	1			
3. Awareness	4.56	1.04	0.88	.71**	.60**	1		
4. Attention	4.64	1.26	0.92	.68**	.81**	.54**	1	
5. Curiosity	4.09	1.22	0.81	.59**	.57**	.63**	.51**	1

Note: **Indicates $p < .001$; N=415-424

Table 7: Study 2 CFA Goodness of Fit Statistics

Model	χ^2	<i>df</i>	RMSEA	CFI
Hypothesized Model 1: Global Workplace Mindfulness	64.51*	14	.09 (.07, .12)	.95
Hypothesized Model 2: Mindful Regulation	35.07*	9	.08 (.06, .11)	.98
Hypothesized Model 3: Awareness	202.58*	14	.18 (.16, .20)	.87
Hypothesized Model 4: Attention	5.31	2	.06 (.00, .13)	.997
Hypothesized Model 5: Curiosity	18.62*	2	.14 (.09, .20)	.97
Measurement Model: 4 Factor	899.70*	185	.10 (.09, .10)	.87
Structural Model: 4 Factors predicting Workplace Mindfulness	1506.07*	340	.09 (.09, .10)	.84

Note: *Indicates $p < .001$; $N = 415-424$, Models 1-5 were single factor model with only the items for that dimension included. The measurement model includes items for all five latent constructs. The structural model includes the four dimension factors predicting global workplace mindfulness.

Table 8: Study 2 Hypothesized Model CFA Loadings

Variable	Number of		Standardized Lambda Loadings		
	Items	AVG	MIN	MAX	
1. Global Workplace Mindfulness	7	.63	.42	.81	
2. Mindful Regulation	6	.71	.53	.80	
3. Awareness	7	.71	.55	.85	
4. Attention	4	.86	.84	.89	
5. Curiosity	4	.73	.64	.85	

N = 415-424

Table 9: Study 2 Revised Model CFA Goodness of Fit Statistics

Model	χ^2	<i>df</i>	RMSEA	CFI
Revised Model 1: Global Workplace Mindfulness	17.40	5	.08 (.04, .12)	.98
Revised Model 2: Mindful Regulation	13.29	2	.12 (.06, .18)	.98
Revised Model 3: Awareness	10.74	2	.10 (.05, .17)	.990
Dimensions Model: 4 Factor	348.24*	100	.08 (.07, .09)	.94
Dimensions Model: 3 Factor excluding mindful regulation	224.55*	51	.09 (.08, .10)	.94
Revised Structural Model: 3 Factors predicting Workplace Mindfulness	434.33*	114	.08 (.07, .09)	.92

Note: *Indicates $p < .001$; $N = 415-424$ Models 1-5 were single factor model with only the items for that dimension included. The measurement model includes items for all five latent constructs. The structural model includes the four dimension factors predicting global workplace mindfulness.

Table 10: Study 2 Revised Model Pattern Matrix

		Factor		
		1	2	3
WM_1	I was in control of my focus.	0.71		
WM_3	I was thoughtful in how I carried out what I was doing.	0.58		
WM_5	I was alert.		0.47	
WM_6	I noticed what I was doing.	0.59		
WM_7	I was aware of what I was thinking about while working.	0.48		
MR_2	I consciously avoided distractions while I was working.	0.65		
MR_4	When my attention began to wander, I was able to redirect it back to what I was doing.	0.74		
MR_5	I directed my energy towards what I was working on.	0.80		
MR_6	I remained connected to the goals I was working towards.	0.76		
AWA_2	I was aware of what was happening around me.		0.84	
AWA_3	I maintained awareness of what I was experiencing.	0.33	0.40	
AWA_5	I remained observant of my surroundings.		0.87	
AWA_6	I was able to monitor what was occurring around me.		0.87	
ATT_1	My attention was focused.	0.90		
ATT_2	I directed my attention to what I needed to focus on.	0.87		
ATT_3	I was able to direct my focus as needed.	0.85		
ATT_4	I was able to maintain focus on what I was doing the entire time.	0.80		
CUR_1	I was open minded throughout the experience.			0.52
CUR_2	I was curious about my reactions.			0.68
CUR_3	During the experience I looked for new angles in what I was doing.			0.74
CUR_4	I kept a fresh perspective about what I was doing.			0.80

Note: Item loadings < .30 were excluded for clarity and the extraction method used was maximum likelihood with oblique rotation. WM = global workplace mindfulness, MR = mindful regulation, AWA = awareness, ATT = attention, CUR = curiosity

Table 11: Study 2 Revised Dimensions Pattern Matrix

		Factor		
		1	2	3
MR_2	I consciously avoided distractions while I was working.	0.64		
MR_4	When my attention began to wander, I was able to redirect it back to what I was doing.	0.72		
MR_5	I directed my energy towards what I was working on.	0.77		
MR_6	I remained connected to the goals I was working towards.	0.74		
AWA_2	I was aware of what was happening around me.		0.83	
AWA_3	I maintained awareness of what I was experiencing.	0.32	0.41	
AWA_5	I remained observant of my surroundings.		0.86	
AWA_6	I was able to monitor what was occurring around me.		0.87	
ATT_1	My attention was focused.	0.89		
ATT_2	I directed my attention to what I needed to focus on.	0.86		
ATT_3	I was able to direct my focus as needed.	0.84		
ATT_4	I was able to maintain focus on what I was doing the entire time.	0.79		
CUR_1	I was open minded throughout the experience.			0.52
CUR_2	I was curious about my reactions.			0.68
CUR_3	During the experience I looked for new angles in what I was doing.			0.74
CUR_4	I kept a fresh perspective about what I was doing.			0.81

Note: Item loadings < .30 were excluded for clarity and the extraction method used was maximum likelihood with oblique rotation. MR = mindful regulation, AWA = awareness, ATT = attention, CUR = curiosity. Global workplace mindfulness was not included in this analysis, only the dimensions.

Table 12: Nomological Network for Workplace Mindfulness

Construct	Definition	Comparison to Workplace Mindfulness	Scale	Predicted Relationship Workplace Mindfulness	Predicted Relationship Awareness	Predicted Relationship Attention	Predicted Relationship Curiosity
Absorption Rothbard (2001)	<i>A state of extreme focus where individuals tend to ignore any distractions or stimuli outside of their immediate focus (Rothbard, 2001).</i>	Absorption and mindfulness both require attention; however, the intensity of attention is likely much higher with absorption and awareness is likely lower.	Adapted 5-item Rothbard scale, 7-point agreement scale	+ Moderate	+ Weak	+ Strong	+ Weak
Metacognition Haynie & Shepherd(2009)	<i>The ability to effectively and appropriately change decision policies given feedback from the environmental context in which cognitive processing is embedded. (Haynie & Shepherd 2009, p. 695)</i>	Metacognition relates to changing thoughts and cognitive processing where mindfulness is more related to attention and awareness.	Adapted Generalized Measure of Adaptive Cognition 31-item scale, 7-point amount scale	+ Moderate	+ Moderate	+ Moderate	+ Strong
Metacognitive Knowledge Haynie & Shepherd(2009)	<i>One's conscious understanding of cognitive matters as they relate to people, tasks, and strategy and can be internally and externally directed. (Haynie & Shepherd 2009)</i>	Metacognitive knowledge relates to an individual's understanding of cognitive processes. While mindfulness may help with understanding cognitive matters, the workplace mindfulness state is likely moderately related at best.	Adapted Generalized Measure of Adaptive Cognition 31-item scale, 7-point amount scale	+ Moderate	+Moderate	+Weak	+Moderate
Metacognitive Experience Haynie & Shepherd(2009)	<i>The extent to which the individual relies on idiosyncratic experiences, emotions, and intuitions when engaging in the process of generating multiple decision frameworks focused on interpreting, planning, and implementing goals to 'manage' a changing environment. (Haynie & Shepherd 2009)</i>	Metacognitive experience is the act of relying on and evaluating heuristics in each situation. Mindfulness is likely a means to achieve this state, so correlations are predicted to be higher with this factor.	Adapted Generalized Measure of Adaptive Cognition 31-item scale, 7-point amount scale	+Moderate	+Moderate	+Moderate	+Moderate

Metacognitive Choice Haynie & Shepherd(2009)	<i>The extent to which the individual engages in the active process of selecting from multiple decision frameworks the one that best interprets, plans, and implements a response for the purpose of 'managing' a changing environment. (Haynie & Shepherd 2009)</i>	Metacognitive choice occurs in the actual decision-making process. I propose that this goes beyond the state of workplace mindfulness to include active decision frameworks and therefore propose the relationship with this factor to be weak.	Adapted Generalized Measure of Adaptive Cognition 31-item scale, 7-point amount scale	+Weak	+Weak	+Weak	+Moderate
Metacognitive Monitoring Haynie & Shepherd(2009)	<i>Seeking and using feedback to reevaluate goal orientation, metacognitive knowledge, metacognitive experience, and metacognitive choice for the purposes of 'managing' a changing environment. (Haynie & Shepherd 2009)</i>	Metacognitive monitoring and mindfulness may be more related due to the 'seeking and using feedback' aspect. Curiosity is the strongest predicted relationship, but overall the correlations are hypothesized to be weak.	Adapted Generalized Measure of Adaptive Cognition 31-item scale, 7-point amount scale	+Weak	+Weak	+Weak	+Moderate
Mindlessness Langer (1989)	<i>A mode that only relies on existing categories and perspectives during information processing.</i>	Mindlessness relies on automaticity, while mindfulness relies on alert attention. While I propose that these constructs are distinct, a moderate, negative relationship is predicted.	5-item State Mindful Attention Awareness Scale (Brown & Ryan, 2003), 7-point amount scale	- Moderate	- Moderate	- Moderate	- Weak
Positive/Negative Affect Watson, Clark, & Tellegen, (1988)	<i>Positive affect – the extent to which a person feels enthusiastic, active, and alert. Negative affect – a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness. (Watson, Clark, & Tellegen, 1988, p. 1063)</i>	While considered a general feeling, positive affect does share similarities with mindfulness with the descriptions of active and alert. Negative affect and mindfulness do not appear to share much in common, however one could be mindful about negative feelings.	20-item PANAS, 5-point slightly-extremely scale	+ Moderate with PA - Weak with NA			
Flow Csikszentmihalyi (1990)	<i>A state of concentration so focused that it amounts to absolute absorption in an activity. (Csikszentmihalyi, 1990, p. 1)</i>	Similar to absorption, flow requires an intense level of attention and awareness of what is occurring outside of the immediate task is likely lower than what is experienced with mindfulness. Attention is predicted to be correlated the strongest with a moderate overall	10-item Flow short scale, Items 1-10 (1:7, Not at all, Partly, Very much), Items 11-13 (1:9, Easy, Difficult)	+ Moderate	+ Moderate	+ Strong	+ Weak

		relationship.					
Conscientiousness John and Srivastava (1999)	<i>Personal traits of being exacting, ambitious, disciplined, methodical, responsible, persistent, and achievement-oriented (Barrick & Mount, 1993; Gellatly, 1996).</i>	Mindfulness in itself can be a disciplined practice, so there could be a relationship between individuals with high/low levels of conscientiousness and mindfulness. Overall a moderate relationship is predicted.	9-item, 5-point disagree strongly – agree strongly	+ Moderate	+Moderate	+ Strong	+ Weak

Note: Relationship strength: low correlation $\rho^2 = .1-.3$, moderate $\rho^2 = .4 - .6$, strong $\rho^2 = .6$ and above

Table 13: Study 3 Survey A Inter-Item Correlations

Item	\bar{x}	σ	1	2	3	4	5	6	7	8	9	10	11	12	13
1. WM_1	5.48	1.16	1												
2. WM_3	5.48	1.17	.76**	1											
3. WM_5	5.63	1.20	.70**	.74**	1										
4. WM_6	5.65	1.10	.66**	.69**	.76**	1									
5. WM_7	5.36	1.24	.60**	.66**	.62**	.67**	1								
6. AWA_2	5.20	1.33	.45**	.45**	.43**	.43**	.49**	1							
7. AWA_3	5.22	1.26	.57**	.62**	.57**	.58**	.61**	.77**	1						
8. AWA_5	5.07	1.35	.44**	.46**	.47**	.44**	.45**	.83**	.77**	1					
9. AWA_6	5.05	1.34	.44**	.45**	.40**	.41**	.46**	.81**	.73**	.89**	1				
10. ATT_1	5.56	1.15	.72**	.73**	.70**	.68**	.60**	.39**	.53**	.43**	.37**	1			
11. ATT_2	5.72	1.09	.71**	.70**	.68**	.67**	.56**	.36**	.50**	.41**	.35**	.82**	1		
12. ATT_3	5.68	1.19	.76**	.75**	.70**	.65**	.57**	.40**	.53**	.42**	.37**	.83**	.80**	1	
13. ATT_4	5.56	1.22	.73**	.74**	.68**	.65**	.61**	.36**	.52**	.38**	.32**	.82**	.81**	.87**	1
14. CUR_1	5.24	1.24	.36**	.43**	.37**	.36**	.35**	.25**	.40**	.29**	.28**	.44**	.40**	.41**	.42**
15. CUR_2	4.61	1.60	.19**	.20**	.14*	.18**	.20**	.15*	.29**	.16**	.18**	.20**	.15*	.17**	.19**
16. CUR_3	4.12	1.66	.16**	.17**	.14*	.14*	.17**	0.11	.20**	0.10	.16**	.15*	.16**	0.08	.13*
17. CUR_4	4.47	1.56	.28**	.29**	.23**	.24**	.32**	.21**	.32**	.22**	.25**	.30**	.26**	.23**	.27**

Note: **Indicates $p < .01$, *Indicates $p < .05$ WM = global workplace mindfulness, AWA = awareness, ATT = attention, CUR = curiosity
 Survey A included measures of global workplace mindfulness, attention, awareness, curiosity, absorption, and metacognition.

Table 13: Study 3 Survey A Inter-Item Correlations (cont.)

Item	14	15	16	17
14. CUR_1	1			
15. CUR_2	.584**	1		
16. CUR_3	.432**	.559**	1	
17. CUR_4	.591**	.603**	.758**	1

Note: **Indicates $p < .01$, *Indicates $p < .05$ WM = global workplace mindfulness, AWA = awareness, ATT = attention, CUR = curiosity
 Survey A included measures of global workplace mindfulness, attention, awareness, curiosity, absorption, and metacognition.

Table 14: Study 3 Survey A Construct Correlations

Construct	\bar{x}	σ	α	1	2	3	4	5	6	7	8	9	10
1. Global Workplace Mindfulness	5.52	1.02	.92	1									
2. Awareness	5.13	1.21	.94	.60**	1								
3. Attention	5.63	1.08	.95	.84**	.48**	1							
4. Curiosity	4.61	1.27	.85	.33**	.28**	.30**	1						
5. Absorption	4.21	1.28	.85	.30**	.03	.37**	.31**	1					
6. Metacognition (all dimensions)	4.51	1.03	.96	.35**	.32**	.34**	.63**	.42**	1				
7. Metacognitive Knowledge	4.62	1.06	.89	.30**	.30**	.27**	.61**	.35**	.94**	1			
8. Metacognitive Experience	4.88	1.00	.86	.49**	.40**	.47**	.49**	.41**	.82**	.71**	1		
9. Metacognitive Control	4.01	1.41	.89	.15*	.20**	.17**	.56**	.34**	.89**	.79**	.57**	1	
10. Metacognitive Monitoring	4.26	1.28	.89	.30**	.26**	.29**	.56**	.39**	.92**	.79**	.68**	.84**	1

Note: **Indicates $p < .01$, *Indicates $p < .05$ Survey A included measures of global workplace mindfulness, attention, awareness, curiosity, absorption, and metacognition.

Table 15: Study 3 Survey B Inter-Item Correlations

Item	\bar{x}	Σ	1	2	3	4	5	6	7	8	9	10	11	12	13
1. WM_1	5.14	1.33	1												
2. WM_3	5.21	1.26	.76**	1											
3. WM_5	5.32	1.24	.74**	.75**	1										
4. WM_6	5.36	1.11	.74**	.77**	.72**	1									
5. WM_7	5.17	1.19	.64**	.68**	.62**	.77**	1								
6. AWA_2	5.10	1.31	.47**	.47**	.55**	.48**	.50**	1							
7. AWA_3	5.13	1.19	.61**	.61**	.63**	.64**	.61**	.74**	1						
8. AWA_5	4.95	1.31	.45**	.46**	.53**	.46**	.48**	.80**	.69**	1					
9. AWA_6	4.96	1.21	.46**	.45**	.48**	.45**	.44**	.81**	.71**	.88**	1				
10. ATT_1	5.24	1.23	.80**	.74**	.73**	.73**	.65**	.46**	.61**	.46**	.44**	1			
11. ATT_2	5.38	1.23	.76**	.74**	.70**	.75**	.65**	.47**	.63**	.48**	.44**	.81**	1		
12. ATT_3	5.33	1.24	.79**	.73**	.72**	.78**	.65**	.44**	.60**	.44**	.43**	.82**	.84**	1	
13. ATT_4	5.14	1.25	.79**	.73**	.73**	.76**	.66**	.45**	.63**	.46**	.46**	.82**	.79**	.88**	1
14. CUR_1	5.05	1.30	.58**	.58**	.48**	.55**	.59**	.43**	.57**	.43**	.45**	.59**	.51**	.58**	.58**
15. CUR_2	4.37	1.48	.38**	.38**	.35**	.32**	.39**	.33**	.39**	.35**	.36**	.40**	.30**	.29**	.32**
16. CUR_3	3.83	1.67	.30**	.33**	.27**	.26**	.35**	.22**	.26**	.24**	.21**	.29**	.19**	.22**	.22**
17. CUR_4	4.24	1.57	.44**	.49**	.42**	.43**	.50**	.32**	.43**	.31**	.30**	.46**	.39**	.40**	.42**

Note: **Indicates $p < .01$, *Indicates $p < .05$ WM = global workplace mindfulness, AWA = awareness, ATT = attention, CUR = curiosity. Survey B included measures of global workplace mindfulness, attention, awareness, curiosity, mindlessness, flow, positive and negative affect, and conscientiousness.

Table 15: Study 3 Survey B Inter-Item Correlations (cont.)

Item	14	15	16	17
14. CUR_1	1			
15. CUR_2	.59**	1		
16. CUR_3	.47**	.59**	1	
17. CUR_4	.66**	.73**	.74**	1

Note: **Indicates $p < .01$, *Indicates $p < .05$ CUR = curiosity Survey B included measures of global workplace mindfulness, attention, awareness, curiosity, mindlessness, flow, positive and negative affect, and conscientiousness.

Table 16: Study 3 Survey B Construct Correlations

Construct	\bar{x}	σ	α	1	2	3	4	5	6	7	8	9
1. Global Workplace Mindfulness	5.24	1.08	.93	1								
2. Awareness	5.03	1.14	.93	.64**	1							
3. Attention	5.27	1.15	.95	.89**	.58**	1						
4. Curiosity	4.37	1.28	.87	.55**	.44**	.47**	1					
5. Mindlessness	2.39	1.28	.89	-.59**	-.29**	-.63**	-.31**	1				
6. Flow	4.61	1.05	.84	.68**	.38**	.70**	.38**	-.60**	1			
7. Positive Affect	3.67	1.31	.93	.61**	.43**	.57**	.53**	-.36**	.60**	1		
8. Negative Affect	1.53	.80	.91	-.28**	-.12*	-.30**	-.15*	.56**	-.43**	-.23**	1	
9. Conscientiousness	5.12	1.01	.89	.49**	.36**	.45**	.26**	-.39**	.43**	.36**	-.29**	1

Note: **Indicates $p < .01$, *Indicates $p < .05$ Survey B included measures of global workplace mindfulness, attention, awareness, curiosity, mindlessness, flow, positive and negative affect, and conscientiousness.

Table 17: Study 3 Survey A CFA Goodness of Fit Statistics

Model	χ^2	<i>df</i>	RMSEA	CFI
Model 1: Global Workplace Mindfulness	25.07*	5	.12 (.08, .17)	.98
Model 2: Awareness	15.30*	2	.15 (.09, .23)	.99
Model 3: Attention	12.86	2	.14 (.07, .22)	.99
Model 4: Curiosity	34.65*	2	.24 (.18, .32)	.94
Dimensions Model: 3 Factor	196.10*	51	.10 (.09, .12)	.95
Structural Model: 3 Factors predicting global workplace mindfulness	323.73*	113	.08 (.07, .09)	.95

Note: *Indicates $p < .001$; $N=275$. Survey A included measures of global workplace mindfulness, attention, awareness, curiosity, absorption, and metacognition.

Table 18: Study 3 Survey B CFA Goodness of Fit Statistics

Model	χ^2	<i>df</i>	RMSEA	CFI
Model 1: Global Workplace Mindfulness	28.56*	5	.13 (.09, .18)	.98
Model 2: Awareness	15.86*	2	.16 (.09, .24)	.99
Model 3: Attention	18.04*	2	.17 (.11, .25)	.99
Model 4: Curiosity	10.56	2	.13 (.06, .20)	.99
Dimensions Model: 3 Factor	251.44*	51	.12 (.11, .14)	.93
Structural Model: 3 Factors predicting global workplace mindfulness	387.66*	113	.10 (.08, .11)	.94

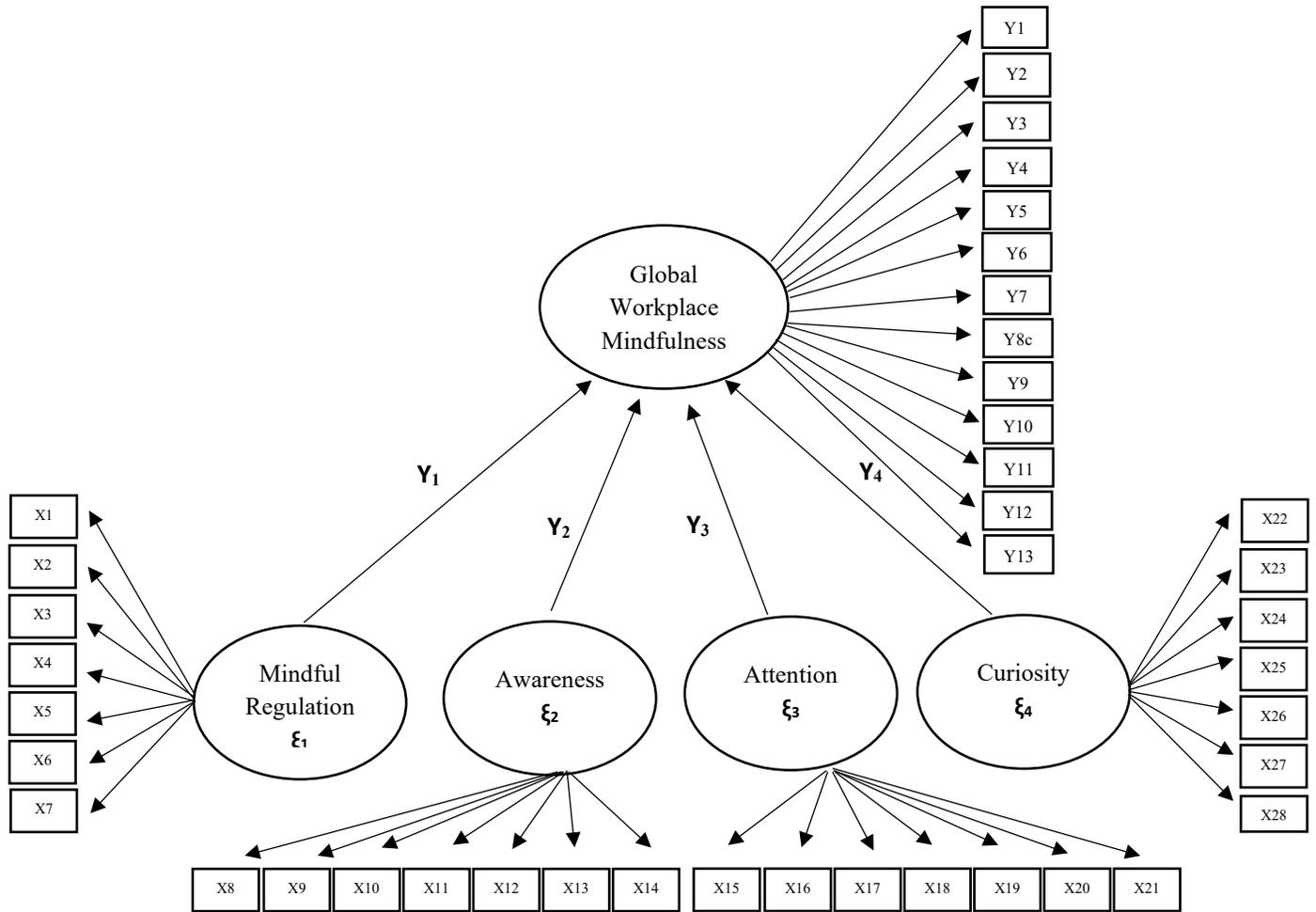
Note: *Indicates $p < .001$; $N=275$ Survey B included measures of global workplace mindfulness, attention, awareness, curiosity, mindlessness, flow, positive and negative affect, and conscientiousness.

APPENDIX B: Figures

Figure 1. Workplace Mindfulness Proposed Multidimensional Model

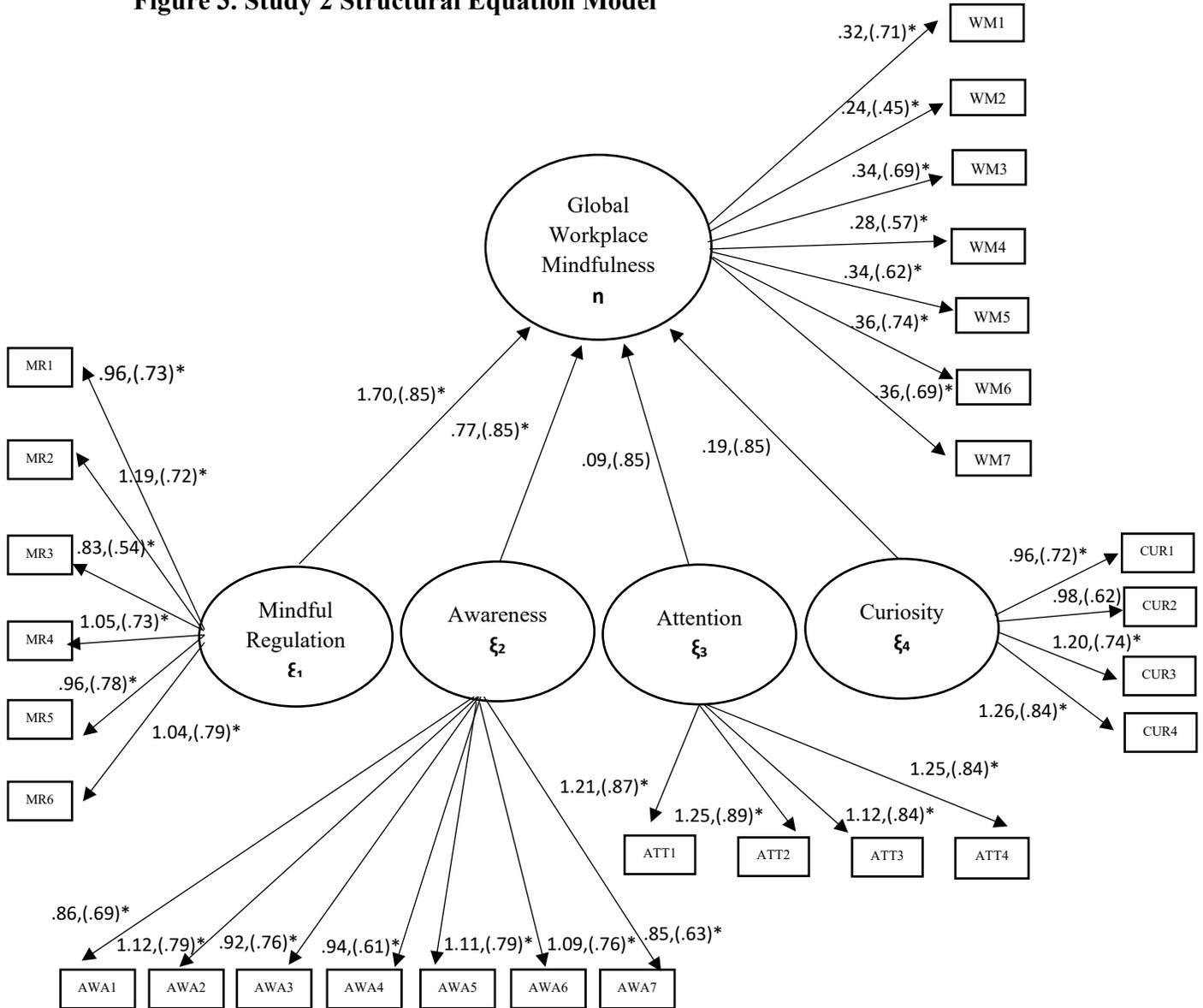


Figure 2. Workplace Mindfulness Hypothesized Factor Structure



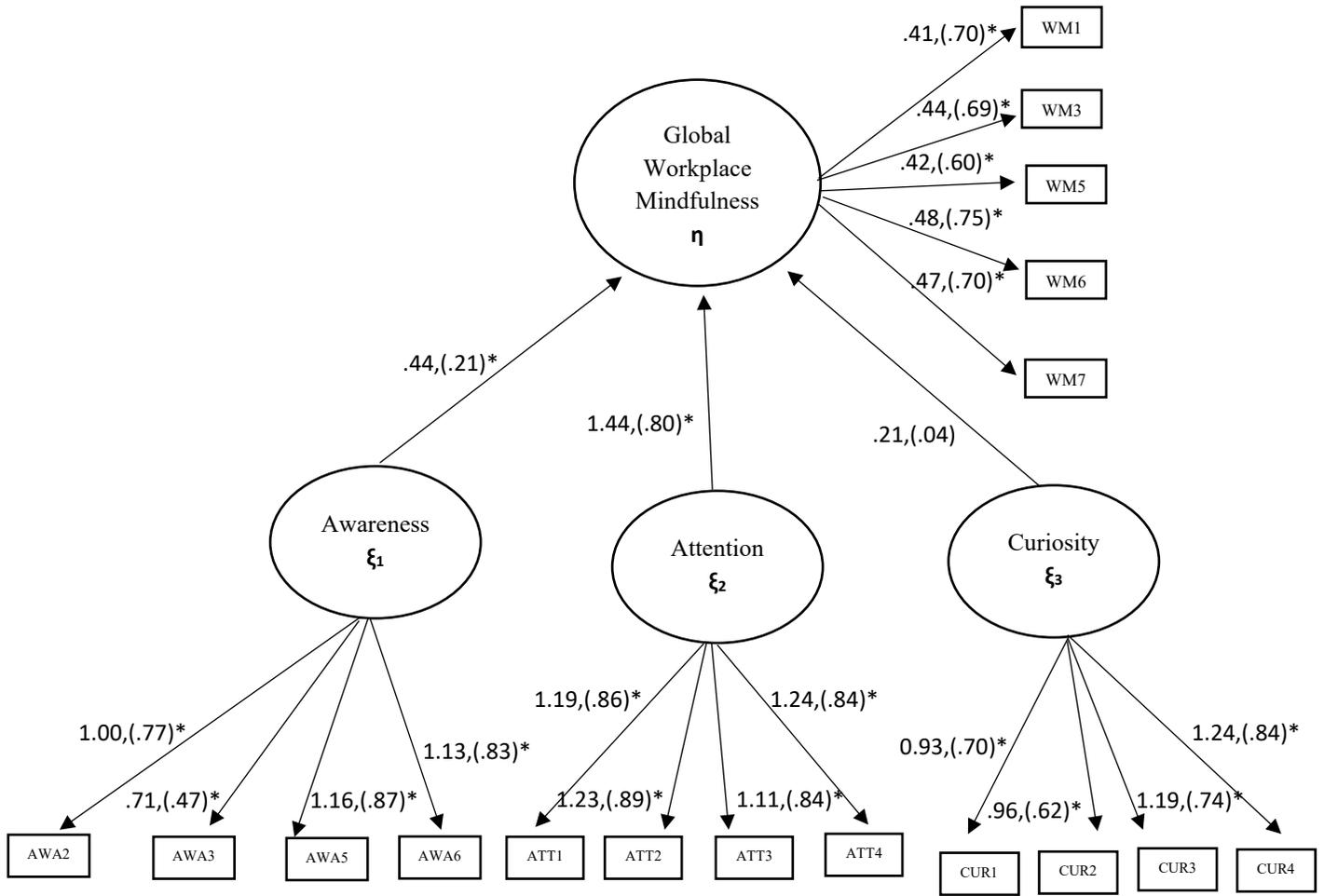
Note: Residuals of errors have been omitted for clarity of the figure.

Figure 3. Study 2 Structural Equation Model



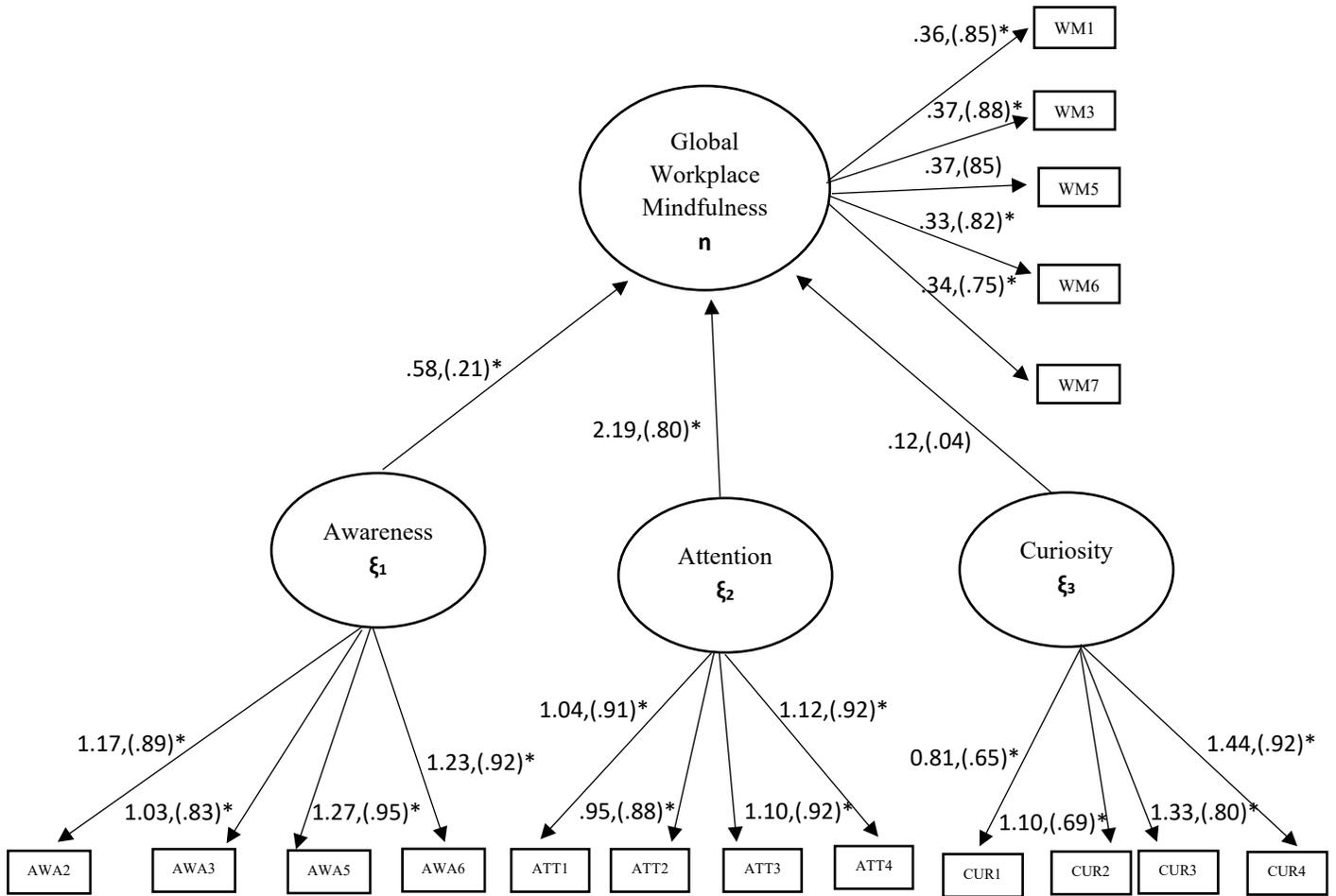
Note: Residuals of errors have been omitted for clarity of the figure. Both unstandardized and standardized results (standardized in parentheses) are reported. * p<.05

Figure 4. Study 2 Exploratory Structural Equation Model



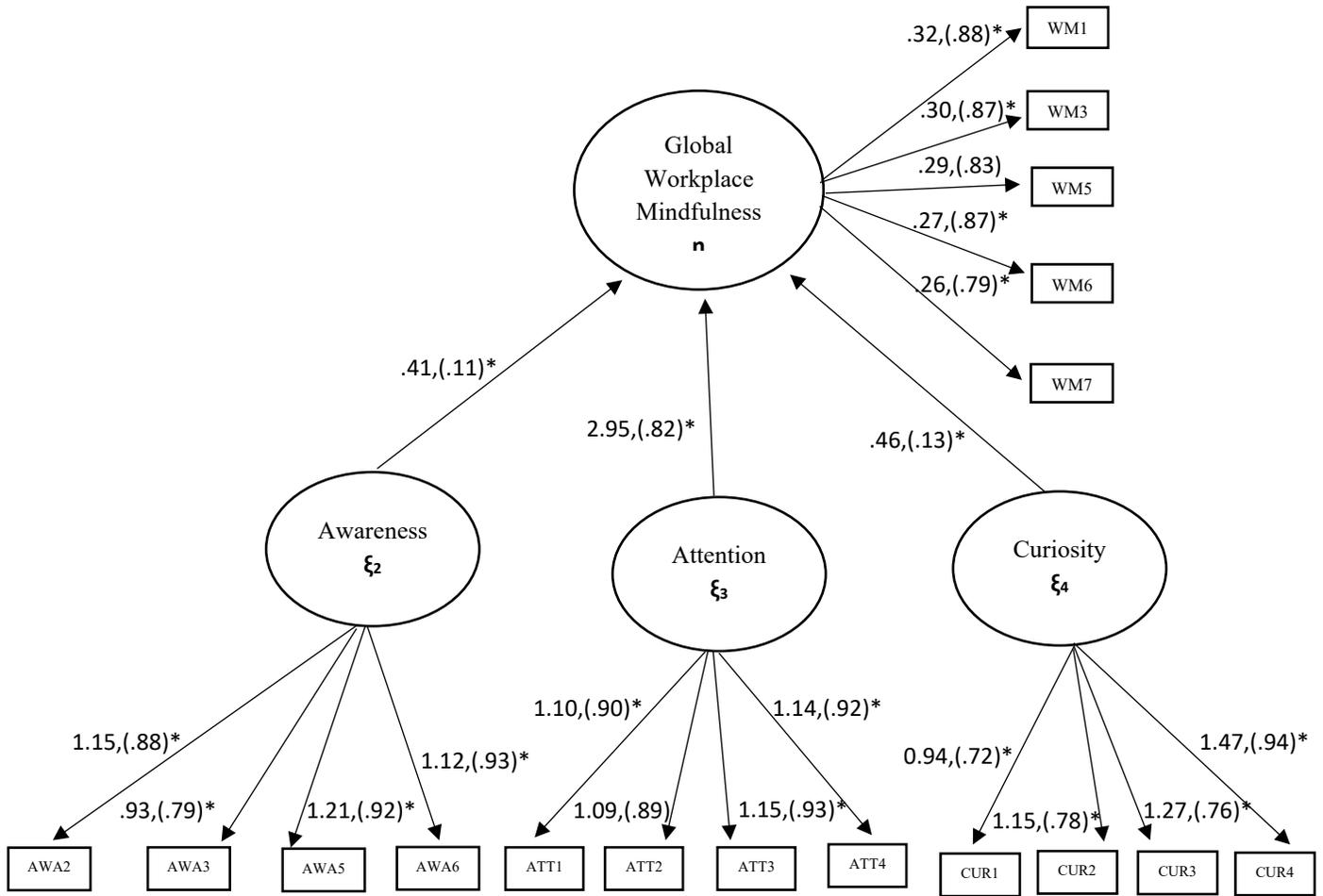
Note: Residuals of errors have been omitted for clarity of the figure. Both unstandardized and standardized results (standardized in parentheses) are reported. * $p < .05$

Figure 5. Study 3 Structural Equation Model - Survey A



Note: Residuals of errors have been omitted for clarity of the figure. Both unstandardized and standardized results (standardized in parentheses) are reported. Survey A included measures of global workplace mindfulness, attention, awareness, curiosity, absorption, and metacognition. * p<.05

Figure 6. Study 3 Structural Equation Model - Survey B



Note: Residuals of errors have been omitted for clarity of the figure. (standardized) Both unstandardized and standardized results (standardized in parentheses) are reported. Survey B included measures of global workplace mindfulness, attention, awareness, curiosity, mindlessness, flow, positive and negative affect, and conscientiousness. * $p < .05$

APPENDIX C: Measures

Proposed Workplace Mindfulness Scale – Global Level

Definition: A conscious state of alertness towards work. (Davis, present study)

Prompt: During the last 10 minutes: (1:7 Not at all, A moderate amount, A great deal)

Items:

- WM_1 I stayed with what I was doing the entire time.
- WM_2 I was in control of my focus.
- WM_3 I remained open to new ways of doing things.
- WM_4 I noticed any reactions that I had.
- WM_5 I looked for a new way of thinking about what I was doing.
- WM_6 I knew what was happening around me.
- WM_7 I noticed thoughts come and go.
- WM_8 I was thoughtful in how I carried out what I was doing.
- WM_9 I remained focused despite was occurring around me.
- WM_10 I was aware of what was occurring in my environment.
- WM_11 I kept an open-mind to what I was experiencing.
- WM_12 I was alert the entire time.
- WM_13 I noticed what I was doing.

Proposed Workplace Mindfulness Scale – Dimension-Specific Level

Prompt: During the last 10 minutes: (1:7 Not at all, A moderate amount, A great deal)

Intention: The extent to which an individual seeks out and maintains mindful states.
(Davis, present study)

- INT_1 I was intentional about what I was doing.
- INT_2 I consciously avoided temptations that would distract me from what I was doing.
- INT_3 I was intentional about keeping an open-mind.
- INT_4 I was thoughtful in working on what I was doing.
- INT_5 I worked to maintain my focus on what I was doing the entire time.
- INT_6 I was intentional about maintaining focus on the task.
- INT_7 When my attention began to wander, I was able to redirect it back to what I was doing.

Awareness: The extent to which an individual monitors their inner and outer environment.

- AWA_1 I was aware of what was going on in my environment.
- AWA_2 I was aware of what was happening around me.
- AWA_3 I was able to maintain awareness of what I was experiencing.

AWA_4 I was able to notice thoughts or emotions I experienced during what was occurring.

AWA_5 I remained observant to my surroundings.

AWA_6 I was able to monitor what was occurring around me.

Attention: The extent to which an individual directs their focus to stimuli associated with their current work experience.

ATT_1 My attention was focused.

ATT_2 I directed my attention to what I needed to focus on.

ATT_3 I was able to redirect my attention as needed.

ATT_4 I was able to maintain focus on what I was doing the entire time.

ATT_5 My level of attention was appropriate for what I was doing.

ATT_6 I managed distractions.

ATT_7 I noticed necessary details in what I was doing.

Curiosity: The extent to which an individual remains open and seeks out new aspects during the experience.

CUR_1 I was interested in what was going on.

CUR_2 I was open minded throughout the experience.

CUR_3 I was examined thoughts or emotions I experienced.

CUR_4 I was curious about any reactions I experienced.

CUR_5 I was able to find what I was working on interesting.

CUR_6 I looked for new aspects in what I was doing.

CUR_7 I was interested in learning something.

CUR_8 I considered different ways of approaching what I was doing.

Nomological Network Measurement Scales

Absorption (Rothbard 2001)

Prompt: During the last 10 minutes: (1:7 Strongly disagree, Neither Agree or Disagree, Strongly Agree)

Original	Adapted
When I am working, I often lose track of time	When I was working, I often lost track of time
I often get carried away by what I am working on	I often got carried away by what I was working on
When I am working, I am completely engrossed by my work	When I was working, I was completely engrossed by my work
When I am working, I am totally absorbed by it	When I was working, I was totally absorbed by it
Nothing can distract me when I am working	Nothing could distract me when I was working

PANAS (Watson, Clark, & Tellegen, 1988)

Prompt: This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. (1:5 Very Slightly, Moderately, Extremely)**Positive Affect**

Interested
Distressed
Excited
Upset
Strong
Guilty
Scared
Hostile
Enthusiastic
Proud

Negative Affect

Irritable
Alert
Ashamed
Inspired
Nervous
Determined
Attentive
Jittery
Active
Afraid

Flow Short Scale (Rheinberg, Vollmeyer, & Engeser, 2003)

Items 1-10 (1:7, Not at all, Partly, Very much), Items 11-13 (1:9, Easy, Difficult)

1. I feel just the right about of challenge.
2. My thoughts/activities run fluidly and smoothly.
3. I don't notice time passing.
4. I have no difficulty concentrating.
5. My mind is completely clear.
6. I am totally absorbed in what I am doing.
7. This right thoughts/movements occur if their own accord.
8. I know what I have to do each step of the way.

9. I feel that I have everything under control.
10. I am completely lost in thought.
11. Compared to all other activities which I partake in, this one is...
12. I think that my competence in this area is...
13. For me personally, the current demands are...

Generalized Measure of Adaptive Cognition (Haynie & Shepherd 2009)

Prompt: Today at work: (1:7 Not at all, A moderate amount, A great deal)

Metacognitive Knowledge

Original	Adapted
I think of several ways to solve a problem and choose the best one.	I thought of several ways to solve a problem and chose the best one.
I challenge my own assumptions about a task before I begin.	I challenged my own assumptions about a task before I began.
I think about how others may react to my actions.	I thought about how others may react to my actions.
I find myself automatically employing strategies that have worked in the past.	I found myself automatically employing strategies that have worked in the past.
I perform best when I already have knowledge of the task.	I performed best when I already had knowledge of the task.
I create my own examples to make information more meaningful.	I created my own examples to make information more meaningful.
I try to use strategies that have worked in the past.	I tried to use strategies that have worked in the past.
I ask myself questions about the task before I begin.	I asked myself questions about the task before I began.
I try to translate new information into my own words.	I tried to translate new information into my own words.
I try to break problems down into smaller components.	I tried to break problems down into smaller components.
I focus on the meaning and significance of new information.	I focused on the meaning and significance of new information.

Metacognitive Experience

Original	Adapted
I think about what I really need to accomplish before I begin a task.	I thought about what I really needed to accomplish before I began a task.
I use different strategies depending on the situation.	I used different strategies depending on the situation.
I organize my time to best accomplish my goals.	I organized my time to best accomplish my goals.
I am good at organizing information.	I was good at organizing information.
I know what kind of information is most important to consider when faced with a problem.	I knew what kind of information was most important to consider when faced with a problem.

I consciously focus my attention on important information.	I consciously focused my attention on important information.
My “gut” tells me when a given strategy I use will be most effective.	My “gut” told me when a given strategy I used would be most effective.
I depend on my intuition to help me formulate strategies.	I depended on my intuition to help me formulate strategies.

Metacognitive Choice

Original	Adapted
I ask myself if I have considered all the options when solving a problem.	I asked myself if I had considered all the options when solving a problem.
I ask myself if there was an easier way to do things after I finish a task.	I asked myself if there was an easier way to do things after I finished a task.
I ask myself if I have considered all the options after I solve a problem.	I asked myself if I had considered all the options after I solved a problem.
I re-evaluate my assumptions when I get confused.	I re-evaluated my assumptions when I got confused.
I ask myself if I have learned as much as I could have when I finished the task.	I asked myself if I had learned as much as I could have when I finished the task.

Monitoring

Original	Adapted
I periodically review to help me understand important relationships.	I periodically reviewed to help me understand important relationships.
I stop and go back over information that is not clear.	I stopped and went back over information that was not clear.
I am aware of what strategies I use when engaged in a given task.	I was aware of what strategies I used when engaged in a given task.
I find myself analyzing the usefulness of a given strategy while engaged in a given task.	I found myself analyzing the usefulness of a given strategy while engaged in a given task.
I find myself pausing regularly to check my comprehension of the problem or situation at hand.	I found myself pausing regularly to check my comprehension of the problem or situation at hand.
I ask myself questions about how well I am doing while I am performing a novel task.	I asked myself questions about how well I was doing while I was performing a novel task.
I stop and reread when I get confused.	I stopped and reread when I got confused.

Note: Response format adapted from like to amount scale based on justifications made in paper.

State Mindful Attention Awareness Scale (Brown & Ryan, 2003)

Prompt: During the last 10 minutes: (1:7 Not at all, A moderate amount, A great deal)

I found it difficult to stay focused on what was happening in the present.

I rushed through activities without being really attentive to them.

I did jobs or tasks automatically, without being aware of what I was doing.

I found myself preoccupied with the future or the past.

I found myself doing things without paying attention.

APPENDIX D: Human Subjects Institutional Review Board Approval Letters

Study 1: Subject Matter Expert Review IRB Approval Letter



Oklahoma State University Institutional Review Board

Date: 02/24/2022
Application Number: IRB-22-73
Proposal Title: Workplace mindfulness scale: content validity study

Principal Investigator: Abbey Davis
Co-Investigator(s):
Faculty Adviser: Lisa Schurer Lambert
Project Coordinator:
Research Assistant(s):

Processed as: Exempt
Exempt Category:

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which continuing review is not required. As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.

4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744- 3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

Study 2: Confirmatory Factor Analysis IRB Approval Letter



Oklahoma State University Institutional Review Board

Date:	04/07/2022
Application Number:	IRB-22-166
Proposal Title:	Testing measures of workplace mindfulness
Principal Investigator:	Abbey Davis
Co-Investigator(s):	
Faculty Adviser:	Lisa Schurer Lambert
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt
Exempt Category:	

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which continuing review is not required. As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

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2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744- 3377 or irb@okstate.edu.

Sincerely,

Oklahoma State University IRB

Study 3: Nomological Network Analysis IRB Approval Letter



Oklahoma State University Institutional Review Board

Date:	07/05/2022
Application Number:	IRB-22-274
Proposal Title:	Workplace Mindfulness Nomological Network Study
Principal Investigator:	Abbey Davis Co-
Investigator(s):	
Faculty Adviser:	Lisa Schurer Lambert
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt
Exempt Category:	

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers

that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which continuing review is not required. As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744- 3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

VITA

Abbey Ann Davis

Candidate for the Degree of

Doctor of Philosophy

Dissertation: OPERATIONALIZING MINDFULNESS IN THE WORKPLACE

Major Field: Business Administration

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Business Administration at Oklahoma State University, Stillwater, Oklahoma in December, 2022.

Completed the requirements for the Master of Science in Business Administration at Oklahoma State University, Stillwater, Oklahoma in 2011.

Completed the requirements for the Bachelor of Science in Business Administration at Oklahoma State University, Stillwater, Oklahoma in 2008.

Experience:

Five years of experience working in higher education and ten years working in industry within human resources-related fields.

Professional Memberships:

Southern Management Association

Society for Industrial and Organizational Psychology

Stillwater Rotary Club